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# Fostering Leadership in High School: Development and Validation of Student Leadership Capacity Building Scales

Lindsay Beth Lyons
*Antioch University - PhD Program in Leadership and Change*

# Fostering Leadership in High School:

# Development and Validation of Student Leadership Capacity Building Scales

Lindsay Beth Lyons

ORCID Scholar ID# 0000-0002-0777-2121

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Dissertation Committee

- Carol Baron, PhD, Committee Chair
- Philomena Essed, PhD, Committee Member
- Marc Brasof, EdD, Committee Member

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**Abstract**

This study developed a set of scales to measure building student leadership capacity in high schools. Student leadership is defined here as students working collaboratively to affect positive change in their educational environments with support from adults and mechanisms in the school. Fostering student leadership in schools has the potential to improve student development and academic achievement. The three scales are organized into three capacity building dimensions: personal, interpersonal, and organizational. Within each scale, items reflect leadership competencies of critical awareness, inclusivity, and positivity. Eight mechanisms identified from the student voice literature were also embedded in the items: radical collegiality, pedagogy, research, relationship, consistency, governance structures, group makeup, and recognition. The research involved two phases. In Phase 1, 280 students from nine schools took a survey that measured their perceptions of opportunities to build leadership in their schools. The results were analyzed using exploratory and confirmatory factor analysis. Several models were tested including a set of items intended to measure personal, interpersonal, and organizational leadership capacity building as well as a three-factor, Overall Student Leadership Capacity Building Scale. All demonstrated acceptable model fit scores. T-tests, ANOVAs, and metric invariance tests found significant differences for: urbanicity and year in school. Mean scores on items reflecting student leadership competencies and mechanisms were compared to determine if there were significant differences by school. In Phase 2, students and teachers participated in focus groups and provided feedback on the instrument and discussed how the survey results could help inform efforts to build student leadership capacity in high schools. This set of scales will inform future research and educational leadership programming, equipping students with the tools to lead, learn, and thrive. This dissertation is available in open access at

AURA: Antioch University Repository and Archive, http://aura.antioch.edu/ and OhioLINK ETD Center, https://etd.ohiolink.edu/

*Keywords:* Student voice, Youth leadership, Scale development, High school, Shared leadership, Mixed methods, Shared leadership, Capacity building, Social justice leadership, Inclusive leadership, Positive leadership

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# Chapter I: Introduction

At a time when political leaders in the United States irresponsibly stereotype immigrants, excuse violence against Black and brown people, and sexually assault women and girls without penalty, educators have a valuable opportunity to help students develop and exercise leadership in a responsible manner. Often, youth leadership or civic engagement is seen as something that happens after graduation from high school, yet academics in the citizenship education and student voice fields argue it should start much sooner (e.g., Shiller, 2013). Westheimer and Kahne's (2004) conception of a "justice-oriented" citizen points to the value of youth who are willing and able to critique systems of oppression. George Theoharis (2007) notes this critique should extend to systems within the school as well. He argues educators have a responsibility to act as social justice leaders and work to redistribute power, stating "leadership that is not focused on and successful at creating more just and equitable schools for marginalized students is indeed not good leadership" (Theoharis, 2007, p. 253).

Many schools prioritize raising test scores and utilize a "banking model" of education (Freire, 2009), which views students as passive recipients of knowledge, and invalidates the important competencies and life experiences students bring into the classroom. This traditional form of education persists despite research showing students are more engaged, feel more competent, and possess higher levels of self-esteem when they are given autonomy in school (Deci & Ryan, 2008). One negative impact of traditional educational structures is increased feelings of civic apathy among marginalized groups of students (Cammarota & Fine, 2008, p. 203). Allen, English, and Papa (2014) point out the banking model of education also academically disadvantages marginalized students. The New York City Department of Education's (NYCDOE, 2016) most recent four-year graduation rate was 68% for Black students

and 67% for Latin@s compared to 82% and 86% for white and Asian students, respectively. For students to whom English is a New Language (ENL students), the graduation rate is less than 51% (NYCDOE, 2016). Students with dis/abilities have the lowest four-year graduation rate, just 41% in New York City (NYCDOE, 2016).

Alternatively, schools that promote a "radical collegiality" (Fielding, 2001) between students and teachers whereby mutual learning is both possible and expected have reported numerous youth development benefits. Studies have shown such initiatives have improved student relationships with peers (Yonezawa & Jones, 2007) and adults (Mitra, 2004). Mitra (2004) found student voice programs lead to increases in student perceptions of agency, belonging, and competence, which ultimately lead to improvements in academic outcomes. Moreover, schools, and organizations in general, benefit from improved decision-making when multiple stakeholders are involved in the decision-making process (Kusy & McBain, 2000).

**Student Voice**

Although fostering student voice has been a goal of progressive educators in the United States and around the world for at least a century, education researchers have shown an increased interest in the last two decades. The emergence of this field of research roughly coincides with the ratification of the Convention on the Rights of the Child, which guarantees youth the "right to express [their] views freely in all matters affecting the child," (United Nations, 1989). As of today, all U.N. countries with the glaring exception of the United States have ratified this document. Studies involving the term "student voice" have significantly grown in popularity over the last 15 years. A search of the term in the Web of Science Citation Index indicated 20 years ago there were only nine published studies that used the phrase. However, in the past decade, the number of items (including empirical studies, editorial articles, literature reviews,

book chapters, book reviews, and conference papers) containing the term "student voice" has increased from seven publications in 2007 to 55 in 2016. A visual representation of the number of times these items have been cited each year depicts a steep, positive trend, reaching approximately 350 citations in 2016.

A commonly accepted definition of the term "student voice" is students' ability to influence decisions that affect their lives (Fielding, 2001). I define student leadership as: students working collaboratively to affect positive change in their educational environments with support from adults and mechanisms in the school. Throughout this dissertation, the term student voice will be used when referring to the existing student voice research and specific opportunities for students to advocate for a position. Critics of the term "student voice" point out students are not a monolithic group and possess many voices (Thomson, 2011). Additionally, voice is only one means of leadership and is not readily available for those with speech impairments. Finally, student voice is divorced from the capacity-building supports from the school. The term student leadership will be used to refer to the larger process and context as it involves school support. The term student voice is only used when referring to research from the student voice field.

A subset of research in the student voice field is dedicated to identifying the mechanisms and processes that help to foster authentic student voice in schools. Throughout this dissertation, the word mechanism is used in line with the dictionary definition of mechanism: a means by which an effect or result is produced (mechanism, n.d.). Mechanisms that support building student leadership capacity and put in place by the school fall into the organizational capacity dimension, while others used by individual educators or students, are part of the personal or interpersonal dimensions. Most mechanisms can be used in more than one dimension. As many

of the barriers to student leadership are traditional structures themselves, a systemic approach to reform makes intuitive sense. Student voice scholars have identified numerous ways educators are involving students in important school decisions like inclusive school governance structures (Brasof, 2014), teachers co-constructing curricula with students (Campbell, 2009), and facilitating student action research on issues in the school (e.g., Biddle, 2015; Mitra, 2002).

Figure 1.1 depicts Dana Mitra's (2006) pyramid of student voice, which highlights the importance of structural strategies for promoting student leadership in schools. Mitra proposes student voice exists on three levels. At the bottom, students are simply being heard, perhaps by filling out a survey to share their opinions. At the middle level, students work alongside adults in partnership to accomplish school goals. At the top level, which Mitra indicates is the most rare form of student voice, is building capacity for student leadership. At this level, the learning community has several mechanisms (e.g., an inclusive governance structure, committees that include students and teachers working in partnership, pedagogical strategies that help students learn to participate effectively in discussions) in place that enable students to develop leadership skills and make important school decisions.

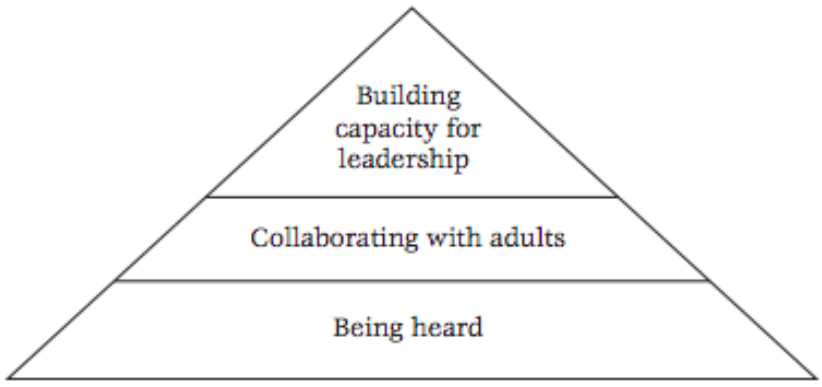


*Figure 1.1.* Mitra's Pyramid of Student Voice. From "Increasing student voice in high school reform: Building partnerships, improving outcomes," by D. L. Mitra and S. J. Gross, 2009, *Educational Management Administration & Leadership*, 37(4), p. 523. Copyright 2009 by SAGE Publications. Reprinted with permission.

After Mitra published the Pyramid of Student Voice, Mitra and Gross (2009) applied Gross' work on Turbulence Theory to the pyramid. Turbulence Theory involves four levels of turbulence akin to those used in flight school: light, moderate, severe, and extreme. Light turbulence in a school setting may reflect an avoidance of conflict. Moderate turbulence seems ideal, as people are now aware of issues, but there is enough stability to continue. Severe turbulence involves a loss of stability at least temporarily, which threatens the flight or initiative, and extreme turbulence whereby structural damage is incurred and collapse is likely (Gross, 2004, p. 2). Mitra and Gross (2009) insist the lowest level of the pyramid, listening to students, increases turbulence since it is surfacing problems that were previously ignored. While, at the top level of the pyramid, building capacity for student leadership decreases turbulence for organizations and individual students because it involves enabling organization-wide communication and making plans to address existing problems. This additional analysis of Mitra's Pyramid of Student Voice indicates the importance of building capacity for student leadership, as it helps stabilize educational communities as they learn and grow.

**Purpose of the Study**

Research in the student voice field has been almost exclusively limited to qualitative case studies. Researchers and practitioners can benefit from a validated instrument that reliably measures the presence of specific mechanisms within a school that build student leadership capacity. Such a tool is a first step in helping educators and researchers identify relationships between specific mechanisms present in school learning communities and student voice outcomes. Ultimately, this may inform educational change initiatives centered on enhancing student leadership. Additionally, scales that measure a learning community's opportunities for student leadership development may serve as a catalyst for more qualitative student–teacher

conversations around shared leadership practices and conceptions of leadership in a school environment.

A few scales have been developed to measure the presence of student voice, however they are limited. Two instruments were developed to assess the degree of youth–adult partnership in an organization, but they have not been validated in school settings (Jones & Perkins, 2005; Zeldin, Krauss, Collura, Lucchesi, & Sulaiman, 2014). Some large-scale surveys have included questions that address the lowest level of Mitra's (2006) pyramid: being heard. For example, the 2009 International Civic and Citizenship Study (ICCS) measured how much students believed their opinions were considered when decisions about curriculum, schedules, and rules were made (Schulz, Ainley, Fraillon, Kerr, & Losito, 2010). An instrument that measures the top, capacity-building level of Mitra's pyramid by assessing how well a school provides support and opportunities for student leadership development at a personal, interpersonal, and organizational level is currently absent from the field.

Additionally, specific leadership competencies were embedded within scale items to determine what kinds of student leadership are promoted in schools. Academics focused on youth leadership often adopt a broad, unspecified definition of leadership, and youth are strikingly absent from the leadership field, which is full of numerous theories created for adults, but few if any that address how youth lead. For example, Jackson and Parry's (2011) book on leadership references over 40 leadership styles! Susan Redmond (2013) points out the lack of competencies ascribed to youth leadership, highlighting some of the possible adult leadership theories that youth leadership researchers may draw from, such as authentic, servant, and transformational leadership. However, the youth leadership model Redmond developed only integrates competencies from these theories at the first level of the model (i.e., personal

skill-building). This study seeks to incorporate competencies from four leadership theories (i.e., authentic, social justice, inclusive, and positive leadership,) and extend the application of these leadership theories beyond the personal skill-building dimension to interpersonal and organizational capacity-building dimensions in an educational environment.

**Definitions of Key Terms**

As previously stated, student voice is students' ability to influence decisions that affect their lives (Fielding, 2001). Student leadership is defined here as: students working collaboratively to affect positive change in their educational environments with support from adults and mechanisms that build personal, interpersonal, and organizational leadership capacity. The theoretical components behind the proposed scale items in this study were organized around two intersecting categories: dimensions of capacity building and leadership theories. Drawing from Mitchell & Sackney's (2011) framework, there are three dimensions of capacity building: personal capacity building, defined here as building individual student skills; interpersonal capacity building, defined as students working with teachers to make school decisions; and organizational capacity building, which involves the school culture, structures, and ways of communicating (see Table 1.1).

In the personal dimension, students and teachers critically reflect on their actions, find new information from different sources, and try new ways of doing things. In this part of the survey, students were asked to think about whether they have opportunities to develop leadership skills while in school (e.g., in class or special trainings or through mentoring).

Interpersonal capacity building involves students working in groups with teachers for mutual learning, making school decisions, and reflecting on the effects of these decisions. In this dimension, teachers support and trust students and respect students' ideas. Interpersonal scale

items ask students to think about how they interact with others, particularly teachers in the school community.

Organizational capacity includes the school culture, structures, and ways of communicating to promote learning. This dimension looks at the big picture of how the school works. Ideally, students and teachers share information, ask questions, and give critical feedback. At the level of organizational capacity, students and teachers are both leaders and have authentic decision making power in any decision that impacts student learning (e.g., discipline policies, schedules, how learning occurs). Organizational items ask students to think about the way the school works in general.

Table 1.1

*Summary of Capacity Building Dimensions*

| Dimension and definition | Asks students to think about | Sample survey items |
|---|---|---|
| Personal: build individual student skills | Opportunities to develop leadership skills | • "In my classes, I learn to recognize the effects of my actions on others."<br>• "During class discussions, I am taught to balance listening and speaking."<br>• "At my school, I am taught to see a difficult assignment as a chance to learn." |
| Interpersonal: students work with teachers to make school decisions | How they interact with teachers | • "In group discussions, I see both students and teachers respectfully listening to critical feedback."<br>• "At my school, I am able to work with teachers to accomplish common goals."<br>• "I usually feel supported by both students and teachers in my school." |
| Organizational: school culture, structures, and ways of communicating | The way the school works in general | • "Students are often asked what they think the school is doing well and what the school could do better."<br>• "Students are invited to participate in school decisions that affect how learning happens."<br>• "In my school, both students and teachers have regular opportunities to improve their leadership skills." |

The proposed scale items specifically reflect the leadership competencies of critical awareness, inclusivity, and positivity, each of which stem from one or more popular leadership theories (i.e., authentic and social justice, inclusive, and positive leadership). I draw from Preskill and Brookfield's (2009) book on social justice leadership as well as the self-awareness and self-development tenants of authentic leadership (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008) to define the skill of critical awareness as reflecting on, understanding, and questioning positive and negative attributes of one's self and society in order to foster equity and growth. I adapt Booysen's (2013) definition of inclusive leadership for my definition of inclusivity, which is: enabling all members to fully participate and learn from each other. I define the dimension of positivity as: applying a strengths-based lens to facilitate growth and enable flourishing. This reflects Cameron's (2012) principles of positive leadership (see Table 1.2).

Table 1.2

*Summary of Leadership Competencies*

| Competency and definition | Leadership theory | Sample survey items |
|---|---|---|
| Critical awareness: reflecting on, understanding, and questioning positive and negative attributes of one's self and society in order to foster equity and growth | Authentic leadership (Walumbwa et al., 2008); social justice leadership (Preskill & Brookfield, 2009) | • "In my school, I am taught to see things from many points of view."<br>• "Groups at my school talk about how much progress they have made."<br>• "After a new rule or a new schedule is made, both students and teachers are asked to share their reactions to the change." |
| Inclusivity: enabling all members to fully participate and learn from each other | Inclusive leadership (Booysen, 2013) | • "At my school, I am taught to make sure all voices are heard."<br>• "In my school, both teachers and students take time to build relationships with me."<br>• "At my school, teachers believe they can learn from students." |
| Positivity: applying a strengths-based lens to facilitate growth and enable flourishing | Positive leadership (Cameron, 2012) | • "I am taught how to create an image of my best self in class."<br>• "At school, students and teachers often celebrate accomplishments."<br>• "At my school, every student has a mentor with whom they have a positive relationship." |

**Research Questions**

This study addressed the following research questions:

1a. What factors emerge through factor analysis with items designed to measure the degree to which a school builds personal capacity for student leadership?

1b. What factors emerge through factor analysis with items designed to measure the degree to which a school builds interpersonal capacity for student leadership?

1c. What factors emerge through factor analysis with items designed to measure the degree to which a school builds organizational capacity for student leadership?

2. What correlations exist between the three scales?

3. Are there differences that emerge across subgroups of participants for each of the factor validated scales?

4. How do students perceive the presence of student leadership competencies and mechanisms in their schools?

5. How do school results of the scales align with school stakeholders' perceptions?

6. How do schools plan to use this information to further develop student leadership capacity?

**Study Design**

The study was conducted in two stages using a sequential, mixed methods design. In the language of mixed methods this was a QUAN(qual) → qual design.

- Phase 1: Following a small pilot study, the proposed scale items were distributed to students in multiple schools as part of a larger survey that included spaces for qualitative feedback and relevant demographic questions. Exploratory and confirmatory factor analyses were conducted to validate the scales and analyze the goodness of fit of the models. Phase 1 also includes survey data and analysis on how participants perceive the presence of student leadership competencies and mechanisms in their schools?
- Phase 2: One qualitative interview and two focus groups were conducted with students and teachers from selected schools that participated in the survey. Participants provided feedback on scale results to address the questions: Are the results an accurate representation of how and to what degree the school builds student leadership? How do

schools plan to use the survey results to further develop student leadership capacity? Qualitative comments from survey participants also contributed to addressing these questions.

Participants were recruited from schools that deliver instruction in English. Bilingual schools were considered eligible since they also deliver instruction in English. Students were eligible to participate in the study if they had attended their high school for at least three months and could demonstrate understanding of written English (as evidenced by their self-reported understanding of study instructions and initial questions). Participants were recruited from diverse school settings in order to ensure the scales were developed from respondents in various contexts and for various populations.

**Significance of Study**

Developing a validated measurement tool for student leadership capacity building dimensions sets the stage for future research to quantitatively analyze the relationships between variables like leadership competencies and specific mechanisms that facilitate students' ability to use authentic voice. This deepens our understanding of which strategies students perceive and use to develop student leadership. These data may inform structural reform initiatives as well as leadership education programs in schools. Including demographic questions helps identify if particular mechanisms or processes marginalize certain groups of students. This information helps address one of the major critiques of existing opportunities for student voice, which is the same few students who "speak well" and are able to stay after school are given more chances to lead. Often, teachers do not consider students with low grades to be good leaders. Additionally, students that have family obligations, such as picking up their siblings from elementary school or

working to help pay bills, are deprived of leadership opportunities simply because they do not have the economic security to afford to stay after school.

For educators and school leaders, measurement scales provide valuable feedback for schools to reflect on strengths and opportunities for growth in student leadership capacity building. These instruments can serve as a starting point for schools that are interested in improving student leadership, but may not know where to begin. Scale results provide opportunities for discussing conceptions of leadership among diverse stakeholders. The inclusion of specific student leadership competencies in the scale items can inspire conversations around what kind of leadership is developed. Furthermore, the building student leadership capacity mechanisms embedded in the items can guide school conversations towards adding or improving specific practices that enable student leadership.

Finally, the importance of a skilled and empowered generation of students committed to leading responsibly in the face of increasing societal conflict cannot be overstated. The benefits of fostering civic-minded student leaders extend beyond individual youth development and school performance indicators. The various communities to which each student belongs benefits from what Feldman and Khademian (2003) call "cascading vitality." When students are able to lead in ways that inspire and empower others, they "becom[e] power generators from which their constituents draw energy" (Kouzes & Posner, 1995, p. 185). In this way, students lift up people in their communities despite structural political and social marginalization.

**Researcher Background**

Coming from a family of teachers, I never thought I would teach. However, in senior year of my undergraduate program, while facilitating workshops on gender issues for local middle and high school students, I realized educators have a unique opportunity to address social

injustice and foster the development of feminist values in young people. Today, I teach an intersectional feminism course to high school students that features projects designed to amplify student leadership. These experiences and the reason I became a teacher impacted my choice of research interest.

My teaching license is in Special Education. In my current position, I teach recent immigrants of highly diverse nationalities, languages, religions, and races. Nearly all qualify for free lunch. Previously, I taught in two Bronx high schools in which the student population was mostly Black and Latin@. The majority of students in these schools also qualified for free lunch. As a result of my degree and work experience, I approach the topic of student leadership through the lens of inclusion, with particular consideration for students of color, students with dis/abilities, low-income students, students in urban settings, and immigrant students who are often new to the English language.

My doctoral degree program is based in leadership and change theory. Therefore, I am particularly interested in how existing schools can shift from having limited student voice mechanisms to promoting a culture of shared youth–adult leadership. In my role as a teacher, I am working collaboratively with high school students to restructure our school's student government. We aim to expand membership and integrate student leadership with teacher leadership, to create an inclusive, representative, and transparent system of school governance.

**Study Assumptions and Limitations**

This study assumes students are capable of making informed decisions about how they learn, yet most schools do not have mechanisms and processes that facilitate this type of shared decision-making and leadership development. It also assumes student leadership in schools is beneficial, as it can enhance student learning and overall school functioning. Despite having a

primarily quantitative methodology, this study was designed to align to the critical/radical/ transformative research paradigm. It assumes reality has been created through social bias. This approach takes normative groups out of the center and places marginalized groups in the center, even including participants as co-researchers. Features of this study that reflect these principles include the scales developed from student perspectives rather than from adult perspectives. Additionally, asking participants to help interpret the results following the statistical analysis of the data provides for a more authentic understanding of stakeholder perspectives.

Limitations of this study include those that are a result of the predominantly quantitative methodology. For example, responses to pre-labeled scale items may have prevented students from fully sharing their perspectives on the topic, whereas in a predominantly qualitative study, more detail and personal perspectives would have emerged. Additionally, although the scales were specifically designed for students in order to center their voices and disrupt traditional power dynamics, this design precludes teachers from sharing their perceptions in the first stage of the study. Relatedly, students may not have been aware of existing opportunities in the school, which may be a function of insufficient advertising and communication or inclusion more than the actual presence or absence of mechanisms.

Another limitation is the restricted generalizability of the findings. Despite having two rural schools in the study, most participants were from progressive, urban, public schools within a limited geographical area. As a function of my connections, many of the urban schools serve immigrant students.

Finally, a concern with many quantitative measurements of performance is improper use of the instrument. As O'Neil (2016) writes in her book, *Weapons of Math Destruction*, educators are assessed using one or two measurements that are often interpreted without important

contextual factors. This has led to high-quality teachers being fired. These scales should serve as one of many tools schools can use to help better understand how students perceive leadership development opportunities. It should not be used to evaluate school performance, particularly without additional context in the form of qualitative data.

**Chapter Overviews**

Chapter II presents a review of literature from the student voice and leadership fields. Additionally, it further defines the framework used in the scales, which includes dimensions of organizational capacity building and four core leadership theories. It also integrates classroom-based and school-based mechanisms identified as successful in student voice case studies. Chapter III details the research design, describing the methodologies used and steps taken within each stage of the study (e.g., scale development, participant selection, and data collection). Chapter IV explains the results of both stages of the study and gives a detailed analysis of the data. Chapter V provides a further discussion of the results laid out in Chapter IV and offers implications for practice and future research.

# Chapter II: Literature Review

Research has demonstrated that involving students in authentic leadership positions in schools can have positive effects on youth development in the form of improved peer and adult relationships (Yonezawa & Jones, 2007), positive self-regard, and academic performance (Mitra, 2004). Additionally, schools benefit from diverse stakeholder involvement in the decision-making process (Kusy & McBain, 2000). Furthermore, every country in the United Nations, with the exception of the United States, has ratified the Convention on the Rights of the Child (1989), which guarantees youth the "right to express [their] views freely in all matters affecting the child." This certainly applies in academic settings where organizational decisions directly impact what and how students learn.

This chapter presents a synthesis of literature on the topics of student voice, student leadership, organizational capacity building, and adult leadership theory. It is organized by the following questions: How can educators build capacity for student leadership? What kind of leadership should be fostered? and How can a school's student leadership capacity be measured?

## How Can Educators Build Capacity for Student Leadership?

This section addresses the question: How can educators build capacity for student leadership? First, to ground the ideas in theory, an overview of typologies from the student voice and citizenship education is provided. One typology, Mitra's (2006) student voice pyramid, is explored in depth. Next, a summary of Mitchell and Sackney's (2011) capacity building framework addresses the concept of how schools build capacity in general. Lastly, a synthesis of existing student voice research highlights specific mechanisms educators have successfully used to foster student voice in high schools.

**Typology.** Scholars in the student voice field as well as academics in the adjacent citizenship education field have created several typologies to describe how youth leadership develops in an educational context. The typologies span a range of formats. While ten of the articles cited below were developed for student voice, four come from the citizenship education field (Arnstein, 1969; Checkoway & Aldana, 2013; Rubin, 2007; Westheimer & Kahne, 2004). Of the fourteen typologies reviewed, four were presented as discrete categories (Checkoway & Aldana, 2013; Fielding, 2006; Treseder, 1997; Westheimer & Kahne, 2004), three took the form of a matrix (Lodge, 2005; Mitra & Kirshner, 2012; Rubin, 2007), three used a ladder format (Arnstein, 1969; Hart, 1992)—one of which was contextually situated (Fielding, 2011), two were shaped as a pyramid (Mitra, 2006; Wong, Zimmerman, & Parker, 2010), and one was a pathway with stages within each level (Shier, 2001).

The majority of typologies highlighted the role of the youth (Arnstein, 1969; Fielding, 2011; Hart, 1992; Lee & Zimmerman, 1999; Lodge, 2005; Shier, 2001; Treseder, 1997; Wong et al., 2010). Three featured the concept of youth development (Mitra, 2006; Wong et al., 2010) - one of which contrasted the goal of youth development with the goal of fixing injustice (Mitra & Kirshner, 2012). Three addressed whether voice is used instrumentally or relationally (Fielding, 2006; Fielding, 2011; Lodge, 2005). Three more categorized citizenship by the degree to which youth act within traditional systems or are critical of those structures (Checkoway & Aldana, 2013; Rubin, 2007; Westheimer & Kahne, 2004). Two typologies noted the importance of context in their models. Treseder (1997) drew attention to developmental stage, while Rubin (2007) noted the impact of individual experiences. Two emphasized the stages of commitment to shared decision-making (Mitra, 2006; Shier, 2001). Finally, Mitra and Kirshner's (2012) typology is the only one that specifically identified the locus of control as existing in the school,

in a community organization, or a blend of both. In summary, the major components needed for both quality student voice and citizenship activity seem to be the degree of youth–adult collaboration, mission to promote youth relational and socio-political development, and consideration of external factors such as personal, societal, and school contexts.

This study is based on Mitra's (2006) student voice pyramid, perhaps the most commonly cited typology in the student voice field in recent years. (Figure 1.1 provides a visual.) Mitra proposed that student voice exists on three levels. At the bottom, students are simply being heard, perhaps by filling out a survey to share their opinions. At the middle level, students work alongside adults in partnership to accomplish school goals. At the top level, which Mitra indicates is the rarest form of student voice, is building capacity for student leadership. At this level, the school acts as a place of opportunity for students to lead and make important decisions regarding authentic school issues. The set of scales developed for this dissertation focuses on the top level of the pyramid, building capacity for leadership, but also includes items that fit the middle and bottom levels as well, as mechanisms and processes to build capacity may utilize strategies of youth–adult partnership and listening to student ideas.

**Capacity building framework.** To create a deeper understanding of Mitra's (2006) top level, this study utilizes Mitchell and Sackney's (2011) framework for organizational capacity building. They posited there are three dimensions of capacity building: personal, interpersonal, and organizational. These dimensions are situated in a learning community, which is characterized by the ways community members work and learn together towards the common purpose of promoting the growth and development of the members in the community. Mitchell and Sackney (2011) contended learning communities require both cognitive and affective investments in order to thrive. Cognitively, members should commit to critical reflection,

distributed leadership, data-driven improvement, and risk-taking. In order for members to effectively engage in these practices, affective practices like mutual trust, respect, support, and care are necessary. Mitchell and Sackney (2011) clarified that to say "professional practice is engaged in the pursuit of leadership rather than in the pursuit of learning [is incorrect]. Our view is that professional practice is all about learning. It is perhaps and at times concerned with leadership, but it is certainly and always concerned with learning" (p. 15). They spent an entire chapter describing the type of leadership they promote: leadership for learning. They wrote, "in an educational community, leadership is all about making teaching and learning happen" (p. 106). Additionally, Mitchell and Sackney (2011) focused their framework on educators, as they insisted teachers must first be able to engage in capacity building themselves before teaching others to do this work. However, they also acknowledged these practices are important for all members of a school community. Therefore, in this dissertation, the framework is applied to students and teachers.

***Personal capacity.*** Applying Mitchell and Sackney's (2011) capacity building framework to student leadership, schools should invest in all three dimensions of personal, interpersonal, and organizational capacity building to build student leadership capacity. Mitchell and Sackney noted building personal capacity starts with deconstructing existing narratives, which requires individuals to confront their values, assumptions, beliefs, practices, and professional networks. They observed critical reflection is often triggered by a disturbance that is personally meaningful. They distinguished two types of reflection students and teachers can practice: reflection on action (after an experience) and in action (during an experience). They noted the latter is much more difficult. Mitchell and Sackney (2011) suggested reflection facilitates a change in cognition, which helps individuals reconstruct their professional

narratives. Strategies such as action research then guide changes in practice, which is necessary for true capacity building. Mitchell and Sackney (2011) noted that one of the largest barriers to educational reform is applying new knowledge in practice; therefore it is important that personal capacity building activities like professional development or skill-building workshops are not divorced from the daily realities of school life.

Student voice scholars have identified several strategies schools have used to foster students' leadership skills. For example, the majority of student voice research speaks to the value of skills training for youth (e.g., Biddle, 2015; Yonezawa & Jones, 2007). This personal capacity building strategy is often delivered in the form of direct instruction either in classrooms or through trainings by community-based organizations affiliated with the school. Unfortunately, student skill-building sessions often remained focused on a narrow set of skills like presenting and acting professional (e.g., Ozer & Wright, 2012). Few scales for youth leadership measure students' experience with skills training. The Multi-Institutional Study of Leadership designed a survey for college students, which asked about types of training (conferences, workshops, courses), but did not ask about the skills students were taught. Moreover, the questions about training were not part of the validated scale items (Dugan & Komives, 2007).

***Interpersonal capacity.*** In Mitra's (2006) second tier of the student voice pyramid, youth–adult partnerships, school stakeholders work collaboratively to build supportive trusting relationships and develop shared understandings. As with all levels of capacity building, Mitchell and Sackney (2011) highlighted building interpersonal capacity requires optimal affective and cognitive climates. They described an affective climate as one in which students and teachers affirm the value of each member's contributions and explicitly invite members of

the school community to join committees or participate in school decisions. Trust is an important component of an affective climate. Members should be reliable and accountable for mutual learning. Mitchell and Sackney described the cognitive climate as empowering students and teachers to engage in leadership through collective reflection and reflective conversations. Mitchell and Sackney noted discourse and dialogue foster learning more than direct instruction. They pointed out dialogic learning occurs within relationships. As with classroom-based mechanisms in personal capacity building, both classroom-based and school-wide mechanisms can support interpersonal reflection in action, on action, and for action. Furthermore, they remarked joint work such as peer coaching, collaborative planning, and action research have led to sustained changes in teaching and learning practices. Interpersonal capacity is built through shared purpose and values, team building, honest critique, regular dialogue, and shared decision-making through consensus (Mitchell & Sackney, 2011).

Fielding (2001) asserted authentic student voice exists when students are able to influence decisions that affect their lives. To ensure students have authentic power, school leaders should not only listen to student voices, but also respond to or act on their ideas. Researchers have identified different practices in which students can engage in decision-making including inclusive government structures (Brasof, 2014) and action research projects on school issues (e.g., Mitra, 2007). Zeldin et al. (2014) created a scale designed for youth in community-based organizations that most closely measures youth–adult partnerships. The youth voice dimension included items such as "I have a say in planning programs at this center" and "The staff take my ideas seriously." The second dimension of the scale measured supportive adult relationships, focusing on a balance of power between youth and adults as well as mutual trust and respect.

***Organizational capacity.*** The final dimension of Mitchell and Sackney's (2011) framework is organizational capacity, which encompasses the school culture, structures, and ways of communicating that promote learning. This dimension shapes the other two. For example, traditional structures often limit personal and interpersonal capacity building due to a lack of support or time, isolation from others, or hierarchical governance structures that prevent power sharing (e.g., Senge et al., 1999). Mitchell and Sackney (2011) stated organizational capacity is enhanced by a focus on cultural transformation centered on leadership for learning that is characterized by trust, care, common knowledge, equity, and democracy. They suggested the interconnected, underlying structures that support sustainable organizational capacity building include socio-cultural conditions, visible structures, and discourse patterns that precipitate action. These structures should all center on the goal of learning and change in response to compelling disturbances. Socio-cultural conditions include the assumptions, values, beliefs, vision, purpose, relationships, and culture of the school. Visible structures, also called the learning architecture involves the creation of learning teams, learning agents, making time in the school calendar for learning, data collection, feedback processes, and incentives for risk-taking and trying new things. Discourse should be focused on student learning, critically reflective, and data-driven (Mitchell & Sackney, 2011). Mitchell and Sackney (2011) pointed out administrators play an important role in building organizational capacity. They suggested administrators should act as facilitators, providing technical, financial, and emotional support, spaces for collaborative reflection, and alignment between four core activities of teaching and learning (adapted from Leithwood, Day, Sammons, Harris, & Hopkins, 2006): setting directions, developing people, redesigning the organization, and managing the instructional program. Opportunities for all stakeholders, including students, to be able to step into leadership roles are

critical to organizational capacity building. A growing subfield of the student voice literature focuses on the organizational mechanisms and processes that foster authentic student voice (e.g., Brasof, 2014; Mitra, 2007). Findings from these studies are detailed in the following section.

**Mechanisms for building student leadership capacity.** To synthesize the current research on promising mechanisms that build student leadership capacity in high school learning communities, I conducted a literature review. For a list of inclusion and exclusion criteria for this list of promising mechanisms, see Appendix A. I found twenty studies in the student voice literature that matched the inclusion criteria and sought to address the question: What mechanisms have contributed to meaningful student voice initiatives in high schools? All 20 studies were qualitative in nature, and 19 used a case study approach. Of these, four were embedded case studies (Biddle, 2015; B. Brown, 2010; Mitra, 2002, 2005; Yonezawa & Jones, 2007), five were multiple case studies (Mitra, 2007, 2008, 2009a, 2009b; Mitra, Lewis, & Sanders, 2013; Osberg, Pope, & Galloway, 2006; Ozer & Wright, 2012; Parnell & Procter, 2011), and one was an ethnographic case study (Silva, 2002). One study utilized an action research design (Campbell, 2009). For summaries of the 20 studies, see Appendix B.

Geographically, the majority of studies in this review (16 out of 20) were located in the United States. Ten were located in western cities (B. Brown, 2010; Campbell, 2009; Chopra, 2014), mostly in California (Denner, Meyer, & Bean, 2005; Mitra, 2002, 2007; Osberg et al., 2006; Ozer & Wright, 2012; Silva, 2002; Yonezawa & Jones, 2007). Three featured studies of schools in the Midwest (Calvert, 2004; Pautsch, 2010; Wernick, Woodford, & Kulick, 2014), and three looked at schools in the Northeast (Biddle, 2015; Brasof, 2014; Mitra et al., 2013). Two studies were located in the United Kingdom (Fielding, 2001; Parnell & Procter, 2011), one was located in Canada (Goodnough, 2014), and one focused on a school in Norway

(Møller, 2006). When describing the populations of study, most authors referred to socioeconomic status, racial makeup, and urbanicity. The majority of studies were located in cities. Only one study explicitly stated the schools under study were located in a rural community (Biddle, 2015). About half of the studies focused on schools with at least 25% of students receiving free or reduced lunch. Half of the studies (many of them overlapping with the studies in low-income communities) looked at schools in which at least half of the student body was made up of students of color. Black and Latin@ students made up the majority of youth in this category. Only a few studies specifically mentioned immigrant students or students new to English (B. Brown, 2010; Mitra, 2002; Ozer & Wright, 2012; Yonezawa & Jones, 2007). One study looked at an all-female program (Denner et al., 2005), and one looked at a program designed for LGBTQ youth (Wernick et al., 2014). No studies examined how students with Individualized Education Plans (IEPs) participated or did not participate in student voice programs.

Most of the research, all but Pautsch (2010) and Silva (2002), centered on youth–adult partnerships, which Camino (2000) refers to as collaborative experiences featuring "mutuality in teaching and learning between youth and adults...coupled with youth power in decision-making" (p. 12). While youth–adult partnerships were commonplace in these studies, research on the inclusion of diverse students in student voice initiatives and the sustainability of student voice initiatives has been limited to recent years. Including students that are representative of the larger student body is important, as student leaders are often privileged students who are already heavily involved in school activities or seen as well spoken (Holdsworth, 2000; Silva, 2002). Almost half of the 20 studies, mostly conducted in recent years, included a focus on diverse student representation (B. Brown, 2010; Calvert, 2004; Mitra et al., 2013; Ozer & Wright, 2012;

Pautsch, 2010; Silva, 2002; Wernick et al., 2014; Yonezawa & Jones, 2007). Unfortunately, results showed that a third of the initiatives that focused on expanding diverse student representation experienced little to no success (Calvert, 2004; Pautsch, 2010; Silva, 2002). Mitra noted the lack of sustainability of student voice initiatives was a problem, as reforms often do not "[continue] beyond the initial infusion of resources and support" (Mitra, 2009a, p. 1835). Only a handful of studies referred to sustainability, indicating a need for further research into stable voice-fostering mechanisms.

Studies were categorized by the presence or noted absence of student voice-fostering mechanisms. Nine mechanisms were identified: consistency, pedagogy, research, group makeup, governance structure, radical collegiality, relationship, recognition, and community partnership. (See Table 2.1 for definitions and applicability.) Recent studies consistently mentioned a higher number of strategies than earlier studies (Biddle, 2015; Brasof, 2014; Chopra, 2014; Goodnough, 2014; Mitra et al., 2013; Ozer & Wright, 2012; Wernick et al., 2014). This could be due to an increase in use of such supports or increased awareness of these strategies by the authors, as authors in several studies identified the conspicuous absence of strategies to demonstrate barriers to success. It appears that the more supportive mechanisms a school puts in place, the more likely voice initiatives will succeed.

Table 2.1

*Definitions of Voice-Fostering Mechanisms*

| Mechanism | Definition | Corresponding Dimension(s) |
|---|---|---|
| **Radical collegiality** | "An expectation that teacher learning is both enabled and enhanced by dialogic encounters with their students in which the interdependent nature of teaching and learning and the shared responsibility for its success is made explicit" (Fielding, 2001, p. 130) | Interpersonal<br>Organizational |
| **Community partnership** | Schools work closely with an outside organization or university that provides training and/or financial resources | Personal<br>Organizational |
| **Pedagogy** | Techniques used to facilitate learning:<br>• Scaffolding: providing suggestions, tools, or resources so all students can access activities<br>• Discussions of relevant social injustice<br>• Co-constructing curriculum with students<br>• Flexible space: "'personalisation' of space" in which the "built environment [serves] as a vehicle for and also a subject of learning activities" (Parnell & Procter, 2011, p. 79) | Personal<br>Interpersonal<br>Organizational |
| **Research** | Students gather data to inform decision-making (e.g., youth participatory action research or YPAR: students identify an issue, collect and analyze data, act to improve the situation, collect more data, adjust their actions) | Personal<br>Interpersonal<br>Organizational |
| **Relationship** | Steps are taken to build relationships between school stakeholders | Personal<br>Interpersonal<br>Organizational |
| **Consistency** | Regularly hold meetings, stable leadership | Organizational |
| **Governance structure** | School's formal systems of decision-making and students' roles in them, considering:<br>• How and to what extent power is shared<br>• Role clarity<br>• Degree of complexity<br>• Election processes<br>• Connectedness to school groups and constituents | Organizational |
| **Recognition** | Students acknowledged or compensated for their work via media attention, awarding academic credit, or a paycheck | Organizational |
| **Group Makeup** | Group size, youth:adult ratio, stakeholder diversity | Interpersonal<br>Organizational |

***Radical collegiality.*** All but four of the studies identified the presence of radical collegiality, or teachers treating students as partners in learning (Biddle, 2015; Brasof, 2014; B. Brown, 2010; Calvert, 2004; Chopra, 2014; Fielding, 2001; Goodnough, 2014; Mitra, 2002, 2005, 2007, 2008, 2009b; Mitra et al., 2013; Osberg et al., 2006; Ozer & Wright, 2012; Parnell & Procter, 2011; Silva, 2002; Wernick et al., 2014; Yonezawa & Jones, 2007). If student leadership is to thrive, teachers and students must be willing to learn from each other and try out new roles. When present in schools, radical collegiality was aided by a dialogic school culture (Fielding, 2001), advisors building bridges between youth and adults (Mitra, 2005), and opportunities for youth and adults to work collaboratively in a structured, small group setting in a space that does not look like a classroom (Mitra, 2009b). The majority of studies cited a shared vision and the creation of clear new roles for youth and adults as integral strategies for fostering a culture of radical collegiality. In schools where radical collegiality was absent, student voice programs had limited success.

Silva and Calvert noted adult resistance to viewing students as partners was a barrier to youth–adult partnerships. Silva (2002) suggested school-wide training on the process of change, and Calvert (2004) advocated for designated spaces and avenues to facilitate youth–adult partnerships. Additionally, Calvert (2004) noted that a strong desire to maintain the image of the school as "successful" contributed to adult resistance to change existing structures. Several other studies offered strategies to facilitate adult buy-in. This included asking adults to nominate student leaders to voice programs (e.g., Brasof, 2014; Osberg et al., 2006; Yonezawa & Jones, 2007) and to help design the student voice program from the start (Chopra, 2014). A number of studies also pointed to the importance of administrator support in improving staff engagement, which includes verbally praising the merits of youth–adult partnerships, establishing clear

expectations of staff participation, and modeling partnership by regularly attending student meetings (Calvert, 2004; Chopra, 2014; Yonezawa & Jones, 2007). Similarly, B. Brown (2010) credited district support with fostering deeper youth–adult partnerships in her study.

***Community partnerships.*** Sixteen studies highlighted the value of community partnerships in providing technical and financial resources to facilitate stronger student voice (Biddle, 2015; B. Brown, 2010; Calvert, 2004; Chopra, 2014; Denner et al., 2005; Fielding, 2001; Goodnough, 2014; Mitra, 2002, 2005, 2007, 2008, 2009a, 2009b; Mitra et al., 2013; Osberg et al., 2006; Ozer & Wright, 2012; Parnell & Procter, 2011; Silva, 2002; Wernick et al., 2014; Yonezawa & Jones, 2007). The most common type of training provided was in research skills, provided at a conference, taught in high school classes, or delivered to staff so that staff could train students. Trainings also targeted communication skills including decision-making, student "professionalization" (Ozer & Wright, 2012), lesson observation techniques (Chopra, 2014), youth–adult collaboration skills (Mitra, 2007), LGBTQ issue awareness for teachers (Wernick et al., 2014), and contextual knowledge integral to change processes (B. Brown, 2010). Additionally, there appeared to be a strong overlap between community partnerships' training and the presence of radical collegiality in schools. Only one school (Mitra, 2009a) in which community partners provided training did not have radical collegiality.

***Pedagogy.*** Fourteen studies referenced pedagogy, indicating that the way in which information is taught and the degree of support offered is closely tied to the success of voice initiatives. Specific pedagogical strategies employed were as follows: eleven identified scaffolding (Biddle, 2015; Brasof, 2014; Chopra, 2014; Denner et al., 2005; Goodnough, 2014; Mitra, 2002, 2007; Mitra et al., 2013; Parnell & Procter, 2011; Pautsch, 2010; Wernick et al., 2014); six programs discussed issues of justice (Brasof, 2014; Denner et al., 2005; Mitra, 2008;

Pautsch, 2010; Ozer & Wright, 2012; Wernick et al., 2014), one of which noted students should have been additionally taught how to critique power (Silva, 2002); five enabled the co-construction of curriculum (Biddle, 2015; Campbell, 2009; Chopra, 2014; Mitra, 2009b; Møller, 2006), and two used flexible space (Mitra, 2007; Parnell & Procter, 2011).

***Research.*** Research strategies were used in 13 studies (Biddle, 2015; Brasof, 2014; B. Brown, 2010; Denner et al., 2005; Fielding, 2001; Goodnough, 2014; Mitra, 2002; Mitra et al., 2013; Osberg et al., 2006; Ozer & Wright, 2012; Parnell & Procter, 2011; Silva, 2002; Wernick et al., 2014; Yonezawa & Jones, 2007). This mechanism was almost exclusively tied to the presence of community partnerships and the partnering organization's provision of research skills. Some studies also spoke to the importance of small group size when undertaking research projects in the school (e.g., Mitra, 2007; Yonezawa & Jones, 2007). Helping students deliver feedback in a strategic manner was instrumental to a receptive response from educators (Ozer & Wright, 2012). Yonezawa and Jones (2007) also noted the improved viability of student research projects when administrators co-create the goal with youth.

***Relationship-building.*** Relationship-building strategies were used in 13 studies (Biddle, 2015; Brasof, 2014; B. Brown, 2010; Calvert, 2004; Campbell, 2009; Chopra, 2014; Denner et al., 2005; Goodnough, 2014; Mitra, 2002, 2005, 2008, 2009b; Mitra et al., 2013; Møller, 2006; Wernick et al., 2014). Specific tools to foster relationships among school stakeholders include: establishing clear channels of communication (Calvert, 2004); shared language and norms (Mitra, 2002; Goodnough, 2014), such as respectfully disagreeing, assuming best intentions, changing yourself before trying to change others, and listening to all voices; and providing opportunities for storytelling (Mitra, 2009b). Møller (2006) noted the importance of regular social events in maintaining a culture of youth–adult partnership in the school for decades.

Campbell (2009) also asserted that when teachers encourage students to address them by their first names, it promotes more equitable relationships between staff and students. Additionally, including relationships as a core aim of the initiative is helpful practice (Biddle, 2015).

***Consistency.*** Consistency appeared in twelve studies (Brasof, 2014; B. Brown, 2010; Calvert, 2004; Chopra, 2014; Goodnough, 2014; Mitra, 2002, 2007, 2009a, 2009b; Mitra et al., 2013; Osberg et al., 2006; Ozer & Wright, 2012; Pautsch, 2010; Yonezawa & Jones, 2007). This mechanism was frequently absent from student voice initiatives, and authors cited the lack of consistency as a barrier to meaningful student voice. In some schools, students were removed from class to attend meetings (Mitra, 2002). In one school, the student representative on a youth–adult team was not invited to every meeting (Osberg et al., 2006). Furthermore, initiatives often fail to continue after a teacher retires or grant funding for a community partnership runs out (e.g., Mitra, 2009a). Therefore, consistency should take the form of regularly held meetings in which all members are invited to the same location at the same time, preferably within the school day. It should also include stable leadership in the form of adult advisors and student members.

***Governance structure.*** Governance structure, although only mentioned in six studies (Brasof, 2014; Calvert, 2004; Campbell, 2009; Møller, 2006; Ozer & Wright, 2012; Pautsch, 2010), provided insights into how to foster inclusivity and sustainability. Of the three studies seeking to increase the inclusivity of students, one successfully used a student-written constitution to bridge youth and adult roles (Calvert, 2004). In the other two (Ozer & Wright, 2012; Pautsch, 2010), student councils remained isolated from adult decision-making and mostly focused on planning social events. Brasof (2014)'s study looked at the sustainability of student voice in a school whose unique system of governance resembles the three branches of the U.S.

government and distributes power evenly across faculty and students. The staff controlled one branch; students ran one; and the third was made up of a mix of youth and adults. The other study that looked at sustainability, while a well-known model of democratic leadership in Norway, kept the student council out of formal decision-making structures (Møller, 2006). Finally, Campbell (2009) found a governance structure in which a student group served as an advisory board to the administration resulted in a successful youth–adult partnership. Student input was valued and adults acted on student advice.

***Recognition.*** Recognizing students for the work they put into student voice programs was identified in six studies (Brasof, 2014; B. Brown, 2010; Chopra, 2014; Mitra, 2007, 2009a, 2009b; Pautsch, 2010; Yonezawa & Jones, 2007). Some schools paid students for their time (Mitra, 2007). Others offered student voice programs as a credit-bearing course (Brasof, 2014; B. Brown, 2010; Chopra, 2014; Mitra, 2007; Yonezawa & Jones, 2007). Yonezawa and Jones (2007) also noted the use of food and community service credit as compensation as well as the use of public praise to recognize student work. Alternatively, Pautsch (2010) and Brasof (2014) cited the lack of recognition and compensation for student leaders as a barrier to stronger student voice.

***Group makeup.*** Nine studies in this review noted the size of the group impacted its success (Biddle, 2015; Brasof, 2014; Mitra, 2002, 2005, 2007, 2009a, 2009b; Parnell & Procter, 2011; Yonezawa & Jones, 2007). Mitra wrote, “The shrinking of the group leadership structure coincided with a rapid increase in productivity in both groups” (2002, p. 164). Four studies noted large class sizes were barriers to student voice (Brasof, 2014; Parnell & Procter, 2011), decreasing student engagement (Yonezawa & Jones, 2007), and “destroyed” the sense of community (Mitra, 2007). Biddle (2015) described a school-wide event in which the ratio of

student leaders to the rest of the student body was too large to facilitate quality conversations. Calvert (2004) wrote positively of the small group structure of Backyards, noting it made it easier for students to build leadership skills and contribute their own ideas.

An additional consideration of group makeup is the youth to adult ratio, the importance of which was argued by Osberg et al. (2006), who noted when one student was invited to an all-adult team, the imbalance of power prevented the student's voice from being fully realized. The most common ratios of youth to adults in the student voice groups ranged from five to ten students to one adult. This type of group was present in roughly half of the studies (B. Brown, 2010; Calvert, 2004; Chopra, 2014; Denner et al., 2005; Fielding, 2001; Mitra, 2002; Ozer & Wright, 2012; Silva, 2002). Several studies featured a fairly equal mix, ranging from a youth:adult ratio of 4:1 to 1:2 (Biddle, 2015; Brasof, 2014; B. Brown, 2010; Denner et al., 2005; Goodnough, 2014; Mitra, 2002; Osberg et al., 2006; Yonezawa & Jones, 2007). A quarter of the studies were set up as a student group with one advisor and had ratios between 19:1 and 31:1 (Campbell, 2009; Calvert, 2004; Parnell & Procter, 2011; Pautsch, 2010; Wernick et al., 2014). While these larger, advisor-run groups may have worked for theater performances (Wernick et al., 2014) or short-term projects (Parnell & Procter, 2011), two of the three groups based in school governance were unsuccessful (Calvert, 2004; Pautsch, 2010). Therefore, groups that had more success were not only smaller in size, but maintained slightly more students than adults.

A final component of group makeup is stakeholder diversity. A quarter of the studies highlighted youth–adult partnerships that included teachers or administrators and members from community partnerships (Biddle, 2015; B. Brown, 2010; Chopra, 2014; Goodnough, 2014; Silva, 2002; Yonezawa & Jones, 2007). Biddle (2015) noted one group in her study includes four

administrators. Three studies featured groups with even more role diversity. B. Brown (2010)'s group included district members. Biddle (2015) described a group made up of four teachers, one administrator, two members of a CBO, and one board member. Finally, one study highlighted three schools that included parents in their youth–adult partnerships (Osberg et al., 2006). Of these studies with diverse stakeholder representation, nearly all were deemed successful. In fact, Osberg et al. (2006) identified the even distribution of stakeholders in the group as a core reason why some groups were more successful than others.

***Mechanism summary.*** The body of research on mechanisms that support student voice in schools is growing. While nearly all of the studies reviewed focused on the middle level of Mitra's pyramid, youth–adult partnerships, less than half addressed how student voice opportunities were available to diverse groups of students or how practices were maintained or improved over time. The mechanisms of radical collegiality, community partnership, pedagogy, research, relationship, and consistency were mentioned in in at least half of the studies reviewed. The mechanisms of governance structure, group makeup, and recognition were only mentioned in a handful of studies.

Most studies that focused on expanding the representativeness of student leaders highlighted work done with students of color and students in economic poverty (B. Brown, 2010; Calvert, 2004; Mitra et al., 2013; Ozer & Wright, 2012; Pautsch, 2010; Silva, 2002; Yonezawa & Jones, 2007). This is important work, as students of color and students who qualify for free lunch are disproportionately ignored and pushed out of schools (National Center for Educational Statistics, 2015). It would be helpful if researchers also looked at other student groups that have historically low graduation rates like students with dis/abilities and students who are new to the English language. Despite the fact schools do not typically collect data on students' sexual

orientations or trans/cis gender identities, research should further explore how schools can ensure inclusion of gay and transgendered students' voices.

**What Kind of Leadership Should be Fostered?**

Up until this point, this chapter has focused on how educators can foster student leadership. Mitra's (2006) student voice typology and more specifically, the top level of the pyramid, leadership capacity building, provide a goal. Mitchell and Sackney's (2011) framework of personal, interpersonal, and organizational capacity building provide insight into the levels of intervention and support needed to achieve the goal. Student voice research has identified promising leadership capacity building mechanisms that exist within each of the three dimensions. The next question to address is: What kind of leadership should be fostered in schools? In the last few decades, the idea that everyone is capable of developing leadership competencies has overtaken the antiquated "Great Man" theory of leadership by which select men were presumed to have been born with natural leadership abilities (Croft & Seemiller, 2017).

**Authentic leadership.** Authentic leadership theory states leaders engage in critical self-reflection in order to further develop themselves. Walumbwa et al. (2008) defined authentic leadership as drawing on positive psychology to "foster greater self-awareness, an internalized moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering positive self-development" (p. 94). Self-awareness is developed through reflection (Gardner, Avolio, Luthans, May, & Walumbwa, 2005) on one's thoughts, feelings, motives, and values (Kernis & Goldman, 2006). Balanced processing means a leader accepts her positive and negative attributes (Kernis & Goldman, 2006) and does not deny any feedback (Gardner et al., 2005).

Authenticity is developmental. Gardner et al. (2005) described authentic leaders as emotionally intelligent, motivated by self-improvement, receptive to feedback, and capable of self-regulation. In their review of papers on authentic leadership, Gardner, Cogliser, Davis, and Dickens (2011) found authentic leadership was positively related to a follower's identification with her supervisor, perception of positive leader modeling, trust in leadership, and job satisfaction. They also found a negative relationship between authentic leadership and follower burnout.

**Social justice leadership.** The theory of social justice leadership posits leaders strive to deepen their awareness of societal injustice and act to eliminate it. Preskill and Brookfield's book, *Learning as a Way of Leading* (2009), named "supporting the growth of others" as one of the tenets of social justice leadership. While leaders are expected to grow, so too are members. They also pointed out social justice leaders are open to contributions of others, reflect critically on one's own practice as well as on collective leadership, learning democracy, and creating community. The "care and concern for vulnerable, marginalized, disenfranchised, and disadvantaged populations" is a priority for social justice leaders (Noble, 2015, p. 108). Noble insisted leaders and their communities must examine the underlying issues of social problems. To do this effectively, she suggested all social justice leaders understand six important terms: privilege, oppression, cultural salience, intersectionality, critical consciousness, and social equity (2015, p. 114). Social justice leadership involves analyzing institutions, not just individuals. To do this, leaders must examine the dynamics of power and privilege and ask what stories are not being told in order to obtain a deeper understanding of the situation (Preskill & Brookfield, 2009). Preskill and Brookfield (2009) posited social justice leadership is akin to Gramsci's notion of an "organic intellectual," in that leaders are members of an oppressed group that work

to empower their community. Gramsci's work stems from that of Marx, whose work was a direct response to the unequal distribution of resources and power within a capitalist society. Therefore, the most important component of social justice leadership is the redistribution of power.

George Theoharis (2007) defined social justice leadership in an educational context, stating educators "make issues of race, class, gender, disability, sexual orientation, and other historically and currently marginalizing conditions in the United States central to their advocacy, leadership practice, and vision. This definition centers on addressing and eliminating marginalization in schools" (p. 223). He conceptualized social justice leadership as a three-pronged resistance. Educators resist marginalization of students, but then face resistance from others in their attempts to act against the injustice. Finally, educators must develop resistance and resiliency in order to continue their work despite the barriers to change (Theoharis, 2007).

**Inclusive leadership.** Booysen (2013) defined inclusive leadership as, "an ongoing cycle of learning through collaborative and respectful relational practice that enables individuals and collectives to be fully part of the whole, such that they are directed, aligned, and committed toward shared outcomes, for the common good of all, while retaining a sense of authenticity and uniqueness" (p. 306). Pless and Maak (2004) contended inclusive leadership is built on a foundation of recognizing difference and requires reciprocal understanding, standpoint plurality and mutual enabling, trust, and integrity as well as an overarching intercultural moral point of view that is centered on democracy, empathy, and moral awareness. Booysen (2013) noted inclusive leadership involves collaboratively co-constructing an organizational value frame and leveraging diversity so that everyone can comfortably be her or himself. In schools, Ryan (2006)

asserted policies should promote inclusion, and the process to make school policies should be inclusive. This concept of inclusive leadership is highly relational in nature, and thus draws on relational leadership theories as well. Relational leadership posits growth happens in connection with others (Fletcher, 2001) via dialogue whereby participants recognize and work through difference (Cunliffe & Eriksen, 2011). Relational leadership is shared, adopting the concept of "power with" rather than "power over" (Fletcher, 2001). Cunliffe and Eriksen (2011) posited this style of leadership is a way of being-in-the-world with relational integrity, relational mindfulness, and relational agility.

**Positive leadership.** Cameron (2012) described positive leadership as having three orientations: positively deviant performance, affirmative bias (a focus on strengths), and facilitating the best of the human condition. He wrote about four strategies to promote positive leadership. First, a positive climate is full of compassion, forgiveness, and gratitude. Positive relationships are a "source of enrichment, vitality, and learning," (Dutton & Ragins, 2007, p. 5). Cameron (2012) noted studies of successful organizations indicate high performing organizations employ positive communication, making five positive statements for every one negative statement and balancing the ratio of inquiry and advocacy statements as well as other-focused and self-focused statements. Additionally, members were more engaged and exchanged more information when communication was positive. Strategies for delivering feedback include the reflected best self, in which a person asks 20 people to share stories of when they remember her at her best (Roberts, Dutton, Spreitzer, Heaphy, & Quinn, 2005) and supportive communication in which critical feedback is given in a way that describes behavior and suggests solutions without judgment (Rogers, 1961). Finally, positive meaning is integral to organizational success. Cameron (2012) insisted the purpose of the organization should be to

build a supportive community and improve the wellbeing of as many people as possible. The related field of positive change contributes additional strategies for organizational and personal growth, such as appreciative inquiry (Cooperrider & Srivastva, 1987), which seeks to build on the strengths of organizations to promote further development.

**Shared leadership.** The concept of shared leadership first appeared in the writings of Mary Parker Follet (1924). Interestingly, Follet is only cited once in Jackson and Parry's seemingly comprehensive leadership book (2011). Aside from a quick mention of ancient Rome, Jackson and Parry (2011) referenced James MacGregor Burns as the oldest citation relating to a shared process of leadership (p. 99). In 1978, Burns wrote, "The leadership approach tends often unconsciously to be elitist; it projects heroic figures against the shadowy background of drab, powerless masses" (p. 3). While his critique of the stark imbalance of power inherent in traditional leadership certainly contributed to the growth of collective leadership, Follet was writing about the value of sharing power with followers over half a century earlier. This misattribution may be a sign of the perpetuated mental model that men are leadership experts or perhaps it is a disdain for "women's work," seeing as Follet's largest contributions were geared towards community organizations rather than the management of large corporations. It seems to be a combination of the two.

In Follet's (1924) book, *Creative Experience,* she addressed conceptions of power and the process of leadership and decision making. She started by asserting, "genuine power is not coercive control, but coactive control. Coercive power is the curse of the universe; coactive power, the enrichment and advancement of every human soul" (Follet, 1924, p. xiii). Follet insisted the best way to address conflict is through integration. She stated, "the object is not to do away with difference but to do away with muddle" (1924, p. 6). She argued conflict is

necessary to identifying various stakeholders' desires. Throughout the book, she reiterated "the experience of all is necessary [to democracy]" (Follet, 1924, p. 19). She insisted on the benefits of integration rather than compromise, noting integration has the ability to reduce loss and increase gain for everyone, as no one is giving up what they desire. Integration, she said, begins with the organization's vision, and the process is of the utmost importance. In what she deems to be the most important sentence of the book, she insisted opportunities "should be provided for [integration] to take place normally" (Follet, 1924, p. 224).

Follet (1924) warned, "the suggestion box... is not a democratic device although often so-called… Democracy does not register various opinions; it is an attempt to create unity." (p. 209). She insisted diverse stakeholders come together to cooperatively gather and analyze information, relate the information to each person's life, and create new ideas that meet all stakeholders' desires. All individuals must contribute to the process, so then "we cannot stand outside and judge the purpose of the state; we ourselves become part of that purpose" (Follet, 1924, p. 221). Follet added, stakeholders have a duty to constantly develop and grow. She believed a great leader is a true representative and emphasized, "We should send our representatives not to win a victory but to come to some agreement on the basis of an enlarged understanding on both sides" (1924, p. 253).

Herein lies the power of her term "power with," which she used to refer to the democratic power generated through freeing each other of static beliefs to work collaboratively to integrate individual desires and create benefitting all parties. She stated the concept of power with "takes time and education and training to develop...it involves a process and a slow process; it is concerned with neither granting power nor grabbing power but with evolving power... opportunity must be given for this process" (Follet, 1924, p. 188). She once again refuted the

notion of zero-sum power when she stated, “first, by pooling power we are not giving it up; and secondly, the power produced by relationship is a qualitative, not a quantitative thing” (Follet, 1924, p. 191). While she admitted integration is more difficult than simply choosing a side, she wrote in her conclusion that confronting and integrating desires “means a freeing for both sides and increased total power or increased capacity in the world” (Follet, 1924, pp. 301–302).

Shared leadership, by nature, promotes flat organizations as better than hierarchical ones Jackson and Parry (2011) discussed shared leadership within their chapter on critical leadership perspectives, identifying the model as one whose purpose is to disrupt traditional power structures. "Riester et al. (2002) and Theoharis (2004) argued that principals need the skills to empower staff through setting up collaborative and shared decision-making structures that allow staff time and space to...craft their practice" (Capper, Theoharis, & Sebastian, 2006, p. 216). A shared leadership model “rejects the distinction between leaders and followers” (Jackson & Parry, 2011, p. 61). Jackson and Parry (2011) noted there is a continuum of shared leadership that extends on the “radical end” to Jeffrey Neilsen’s idealized model of “peer-based communities” (p. 62).

Carson, Tesluk, and Marrone (2007) determined three attributes of teams that facilitate the development of shared leadership: members share a commitment to a common goal, receive emotional support from one another, and feel their individual voices are valued (p. 1222). Their review noted shared leadership can lead to positive results. They “found that teams relying on multiple members for leadership performed better than those in which internal leadership was relatively scarce” (Carson et al., 2007, p. 1228). Additionally, they wrote, “When team members feel recognized and supported within their team (social support) they are more willing to share

responsibility, cooperate, and commit to the team's collective goals" (Carson et al., 2007, p. 1223).

**Distributed leadership.** Distributed leadership is sometimes used synonymously with shared leadership, but has been developed in the specific context of education and features teachers as leaders in K–12 schools. Distributed leadership asserts the how and why of leadership practice centers on the interaction of three elements: leader(s), follower(s), and situation (Spillane, Halverson, & Diamond, 2004). Distributed leadership examines how leadership is interdependently enacted and "stretched over" several leaders and followers to achieve collective leadership practice that is "more than the sum of each individual's practice" (Spillane et al., 2004, p. 19). Fusarelli, Kowalski, and Petersen (2011) argued distributed leadership is best when used in conjunction with democratic leadership, as distributed leadership on its own does not ensure inclusive participation. Unlike shared leadership, which does not limit participation only to employees, distributed leadership frames inclusion as involving teachers in school decision-making, but stops short of distributing leadership responsibilities to students. Pedersen, Yager, and Yager (2012) found school support for a distributed leadership model leads to a more positive school climate and improved character development, which in turn increases the sustainability of the inclusive leadership model.

**Student leadership.** While the amount of literature written on adult leadership far outweighs papers on youth leadership, in the last decade there has been a push to develop more specific theories of leadership in students. The most recent volume (2017) of *New Directions for Student Leadership* is entitled "A Competency-Based Approach for Student Leadership Development," in which editor Corey Seemiller has pulled together a variety of authors on the up-and-coming topic of student leadership competencies. Additionally, Redmond (2013) posited

a conceptual model of youth leadership in her dissertation that integrates elements of a supportive school context for leadership development, namely authentic opportunities to lead and mentorship, which are absent from most theories of adult leadership.

Seemiller (2016) has produced the most comprehensive list, which includes 60 competencies that span four dimensions of learning: knowledge, values, abilities or skills, and behavior. Therefore, students must learn about leadership, determine what kind of leaders they intend to be, develop the necessary skills to lead in that way, and finally, actively lead. Seemiller (2016) grouped these competencies into eight clusters: learning and reasoning, self-awareness and development, interpersonal interaction, group dynamics, civic responsibility, communication, strategic planning, and personal behavior. These clusters align with common adult leadership theories such as Authentic Leadership, Social Justice Leadership, Relational Leadership Theory, and Inclusive Leadership. Additionally, Seemiller (2016) drew from the Social Change Model of Leadership Development, which has been used in the student leadership literature and involves leadership on individual, group, and community levels (Higher Education Research Institute, 1996).

Despite the recent growth of student leadership theories, most competency-based youth leadership theories remain focused on college students. However, this does not mean they are not relevant for younger students. Kouzes and Posner's (1998) Student Leadership Practices Inventory (SLPI) employs the "Five Practices of Exemplary Leadership" (model the way, challenge the process, enable others to act, inspire a shared vision, encourage the heart). Originally, they designed an instrument for adults, but they adapted the items to create the SLPI, making the assessment accessible and relevant to college students. Subsequently, other academics have used this instrument with students in high school (e.g., Peyton, 2012) and junior

high school (e.g., Shirley, 2007). While leadership competencies are applicable to youth, an important dimension of developing youth leaders not always present in adult theories of leadership is the level of support and guidance youth require to further their development. Kouzes and Posner's (1998) SLPI is a self-reflective survey for which students answer items on the degree to which they practice leadership. It does not measure the supports available to or used by students to further develop their leadership competencies.

Redmond (2013) included this level of support in her youth leadership model within the level of environmental conditions, taking the form of authentic opportunities for participation and mentoring. For a visual of Redmond's model, see Figure 2.1. In her dissertation, Redmond pulled together youth leadership research to build her own pyramid of youth leadership. At the bottom level are the skills needed for youth leadership. These include social and emotional intelligence, collaboration, articulation, and insight and knowledge. At the next level are the environmental conditions that provide opportunities for authentic student leadership as well as supportive mentoring. At the action level, students are involved in community action projects. They work to master their skills and motivate others with whom they work in collaboration.

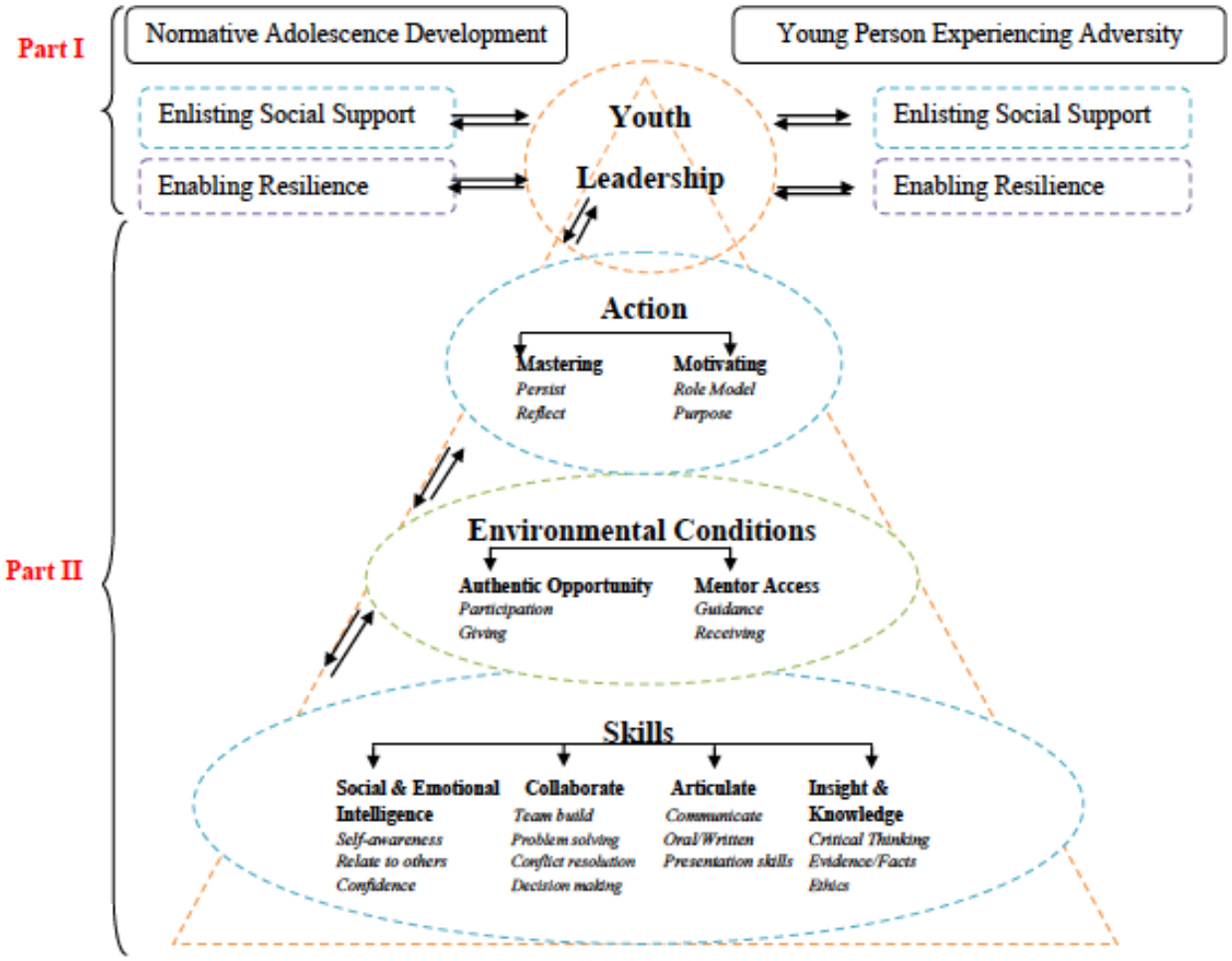


*Figure 2.1.* Redmond's Youth Leadership Conceptual Model. From *An Explorative Study on the Connection between Leadership Skills, Resilience and Social Support among Youth* (p. 88), by S. Redmond, 2013, Retrieved from NIU Galway Theses. http://hdl.handle.net/10379/3552 Copyright 2013 by S. Redmond. Reprinted with permission.

She noted that students can approach leadership from different ways. Students who have experienced adversity and have developed resilience are able to bring that skill to their leadership and receive mentoring support as they continue to develop as leaders. Others may enter leadership following more formal training and the guidance of a mentor. Redmond (2013) suggested these students' leadership experiences will likely strengthen their resiliency. While Redmond proposed important developmental strategies for youth leadership, the model is not specific to what kind of leadership is being cultivated. Therefore, there is great potential for

bringing together the specific competencies of youth leadership with the structural supports necessary for youth to develop as leaders.

**Critical awareness, inclusivity, and positivity.** Synthesizing the adult literature on leadership as well as the work on student leadership competencies, I posit the attributes or competencies that seem most necessary for future leaders to possess are: critical awareness, inclusivity, and positivity. Each of these competencies has a strong grounding in adult leadership theory, namely, social justice leadership, authentic leadership, inclusive leadership theory, and positive leadership. They are also reflected, although with different labels in the student leadership competencies developed by Seemiller (2016), Kouzes and Posner (1998), and Redmond (2013). The definitions I use throughout this dissertation for the three student leadership competencies are:

- *Critical awareness* is defined as reflecting on, understanding, and questioning positive and negative attributes of one's self and society in order to foster equity and growth.
- *Inclusivity*, which closely mirrors Booysen's definition, is enabling all members to fully participate and learn from each other.
- *Positivity* is applying a strengths-based lens to facilitate growth and enable flourishing.

**How Can a School's Student Leadership Capacity be Measured?**

Prior to creating an instrument that reliably assesses a school's student leadership capacity, it was prudent to examine existing instruments that measure related phenomena. Several measures of leadership competencies exist. Most of them were created for adults (e.g., Walumbwa et al., 2008), but some were created for college students (e.g., Seemiller, 2016). Student voice scholars have produced tools that measure some student leadership mechanisms, which are intended for a younger, high school-aged audience (e.g., Zeldin et al.,

2014). However, while these instruments measure important aspects of leadership such as competencies and youth–adult partnerships, none measure organization-wide student leadership mechanisms. Table 2.2 provides details of the various instruments. Samples with which the instruments were validated range between 140,000 participants to zero reported participants. The number of items on the scales range from six to over 100 items, and the response scales vary from four-point scales to ten-point scales. Flesch-Kincaid readability scores ranged from the fourth grade level to the college level. Cronbach's alphas range from .68 to .92.

Table 2.2

*Summary of Existing Instruments*

| Instrument | Sample | Items; response scale | Readability[a] | Factors (Cronbach's alpha) |
|---|---|---|---|---|
| **ICCS: decision-making** | 140,000 students, 38 nations | 6 items; 4-pt scale | Grade: 11; Words: 0 | No factor analysis conducted |
| **IIRS** | 108 youth and adults | 38 items; 10-pt scale | Grade: 8.6; Words: 15 | No factor analysis conducted; Youth involvement (.83); Adult involvement (.84); Youth–adult interaction (.87) |
| **Y-APs in community programs** | 610 youth in US, Portugal, Malaysia | 9 items; 5-pt scale | Grade: 4.5; Words: 0 | Supportive adult relationships (.87); Youth voice in decision-making (.82) |
| **ALQ** | 212 China, 224 US employees | 16 items; 5-pt frequency scale | Grade: 7.3; Words: 7 | Self-awareness (.79, .92); relational transparency (.72, .87); internalized moral perspective (.73, .76); balanced processing (.76, .81) |
| **SJLS** | 424 students, Turkey | 33 items; 5-pt scale | Not calculated (items in Turkish) | Support (.91), critical consciousness (.92), participation (.72) |
| **RLQ** | 141 teachers | 25 items; 7-pt scale | Grade: 12.8 Words: 28 | Caring (.90+); empowering (.90+); ethical (.90+); vision (.90+); inclusion (.90+) |
| **PLAS** | 423 college students | 15 items; 5-pt scale | Grade: 15.3; Words: 38 | Positive climate (.75); positive relationships (.69); positive communication (.68); creation of positive meaning (.75); positive strategies (.69) |
| **SLCI** | Still in data collection | 8 clusters: 12-33 items per cluster; 7-point scale | Not calculated | No factor analysis conducted |

[a]Readability refers to Flesch-Kincaid reading level and number of words identified as low frequency by Rewordify.com

**Instruments that measure student voice and some mechanisms.** Instruments developed to measure student voice focus primarily on the bottom levels of Mitra's (2006) pyramid. Two instruments measure the relationship mechanism. One of the instruments also contains a factor for student involvement in decision-making, similar to the governance structure mechanisms.

Some large-scale surveys have included questions that address the lowest level of Mitra's (2006) pyramid: being heard. For example, the 2009 International Civic and Citizenship Study (ICCS) included a short, 6-item section that measured how much students believed their opinions were considered when decisions about curriculum, schedules, and rules were made (Schulz et al., 2010). While the purpose of this survey was not to develop a reliable and validated scale, it did gather important information about student involvement in various civic activities in schools across the world and is therefore an important resource to consult in designing new instruments. Students responded on a four-point scale: not at all, to a small extent, to a moderate extent, to a large extent. Due to the length and complexity of the overarching question, Flesch-Kincaid reading level = grade 11. However, no difficult (low frequency) vocabulary words were identified by the website Rewordify.com. The sample included over 140,000 eighth grade students from 38 countries spanning five out of six habitable continents. To be included in the report, countries and schools needed to have an 85% response rate.

***Involvement and interaction rating scale.*** Jones and Perkins (2005) published the Involvement and Interaction Rating Scale (IIRS) that purportedly measures youth–adult relationships along a continuum of youth-centered leadership to adult-centered leadership. The scale included 38 items, several of which were negatively worded, and responses were given on a 10-point scale. Flesch-Kincaid reading level = grade 8.6, and 15 low frequency words were

identified. The sample size was small ($N = 108$). Reliability coefficients were presented for the three constructs: Youth Involvement ($\alpha = .83$), Adult Involvement ($\alpha = .84$), and Youth–Adult Interaction ($\alpha = .87$). No other data were reported. A larger sample size would allow for researchers to conduct factor analysis to help determine the validity of this scale. Furthermore, the length of the scale, presence of negatively worded items, and the large range of responses may have hindered the authenticity of student responses due to cognitive difficulty and consequent survey fatigue.

***Youth–adult partnerships in community programs.*** Zeldin et al. (2014) created an instrument to measure youth–adult partnerships (Y-APs) in community based organizations. The sample included youth from the United States, Portugal, and Malaysia ($N = 610$). They chose not to use negatively worded items as they believed such items were confusing for youth. For the nine retained items, the Flesch-Kincaid reading level was equal to grade 4.5, and there were no low frequency words. Participants responded on a 5-point agreement scale. The authors identified a two-factor model: supportive adult relationships (five items, $\alpha = .87$) and youth voice in decision-making (four items, $\alpha = .82$), CMIN/df = 3.99, CFI = .970, RMSEA = .07. The CMIN/df is above the recommended score of < 3 (Arbuckle, 2012). RMSEA is high and gets larger when looking at countries separately. In the USA model, RMSEA = .083. In the Portugal model, RMSEA = .086, and in the Malaysia model, RMSEA = .085. Discriminant validity was reported as strong, as all variance extracted estimates were greater than the squared correlation estimates for each pair of measures with the exception of safe environment and program engagement, which had a correlation of < .9, which the authors determined to be acceptable. The two factors were moderately positively correlated with each other ($r = .64$), and both were positively correlated with agency and empowerment, $r = .37$ and $r = –.44$ respectively which the

authors note suggests concurrent validity. Applicability to different contexts such as schools or other contexts in which youth and adults work together has to be more fully explored. Additionally, further research on the differences across age groups would deepen our understanding of youth leadership.

**Summary of student voice and mechanism instruments.** While these three measurement tools have advanced scale development research in the student voice field, they primarily measure the bottom two levels of Mitra's (2006) pyramid, being heard and collaborating with adults. One factor in the youth–adult partnerships in community programs scale measures student involvement in decision-making, similar to the governance structure mechanism. This scale seems to measure the top level of Mitra's pyramid, as it builds students' capacities to lead and make decisions in their educational communities. The existing student voice instruments are also individually limited by sample size, rigor of statistical analysis, or context. Currently, there does not appear to be a validated and reliable scale that provides a full picture of the capacity building level of Mitra's pyramid. Additionally, the one scale that contains a capacity building mechanism was not designed or validated for schools. Thus, there is a need for an instrument that can measure, in detail, how well a school provides support and opportunities for student leadership development.

**Leadership competency instruments.** This section highlights scales that were designed to measure the four leadership styles embedded into the scale this dissertation seeks to validate. An inclusive leadership scale could not be found. Thus, a relational leadership scale is used in its place due to the strong theoretical overlap between inclusive leadership and relational leadership.

***Authentic leadership questionnaire.*** The Authentic Leadership Questionnaire (ALQ) was designed and tested by Walumbwa et al. (2008) based on theory developed by Avolio, Gardner, and others (e.g., Gardner et al., 2005). Confirmatory Factor Analysis (CFA) was conducted using two samples, 212 workers from China and 224 workers from the United States. Survey respondents answered questions about their supervisors. Sixteen items were retained. Participants were asked to respond on a 5-point frequency scale. Based on the eight sample items included in the article, the Flesch-Kincaid reading level was equal to grade 7.3, and seven low frequency words were identified. During factor analysis, four factors were identified: self-awareness (4 items), relational transparency (5 items), internalized moral perspective (4 items), and balanced processing (3 items). For the U.S. sample, standardized factor loadings of the model ranged from .66 to .93. The authors reported Cronbach's acceptable alpha for all factors: self-awareness, .92; relational transparency, .87; internalized moral perspective, .76; and balanced processing, .81. For the China sample, standardized factor loadings ranged from .62 to .78. Cronbach's alphas were also acceptable: self-awareness, .79; relational transparency, .72; internalized moral perspective, .73; and balanced processing, .76. Model fit was best when accounting for a second-order factor, which allowed all four factors to load onto a second-order authentic leadership factor. Model fit was independently tested with the US sample, CMIN/df = 2.39, CFI = .97, RMSEA = .05, and the Chinese sample, CMIN/df = 1.83, CFI = .95, RMSEA = .06. The two samples were found to be invariant, $\chi^2 = 22.80$, $p = .156$. Convergent validity was reported, citing an average correlation among the four factors to be .69. While reliable and valid for adult populations in the multiple countries, the ALQ might be difficult for students to complete due to the somewhat advanced reading level and the use of low frequency words such

as solicits and capabilities. Additionally, the work context is unfamiliar to students, whereas items asking about school are more relatable for teens.

***Social justice leadership scale.*** Özdemir and Kütküt (2015) developed a Social Justice Leadership Scale (SJLS), which was given to 424 students across four schools in Ankara, Turkey. The scale had 33 items. I was unable to calculate the reading level due to my inability to translate from Turkish. Students answered items about the leadership behaviors of their principals. Factor analysis identified three factors: support (factor loadings between .573 and .712), critical consciousness (factor loadings between .651 and .754), and participation (factor loadings between .635 and .786). Cronbach's alpha for the total model was .94, and Cronbach's alpha for the individual factors ranged from .72 and .92. The model was reported as having strong goodness of fit, CMIN/df = 2.12, CFI = .96, RMSEA = .05. The scale explained a total of 57% of the variance, which falls below the recommended threshold of 60% (Hinkin, 1998).

***Relational leadership questionnaire.*** Carifio (2010) created a Relational Leadership Questionnaire (RLQ) for teachers, which synthesized the theories of relational leadership from Komives, Lucas, and McMahon (1998), and Regan and Brooks (1995). It was given to 141 elementary, middle, and high school teachers. The average response rate was 64%. Participants were asked to answer on a 7-point response scale. The authors retained 25 items in the scale, five items with the highest factor loadings for each of the five factors. One main factor, caring, accounted for 64% of the variance, and the other four "minor" factors accounted for 3% or 4%. The first two factors, caring and empowering, were moderately correlated. When the male data were analyzed separately, empowering was the primary factor, accounting for 66% of the total variance. However, this could have been a result of the small number of men in the sample, as 85% of the sample was female and only 15% was male. At the high school level,

empowerment accounted for 68% of the variance, and at the middle school level, vision accounted for 58%. Five items were also included that made up the "lie scale." Principal Axis Factor analysis and Principal Components Analysis (PCA) were used for exploratory factor analysis, but no CFA was conducted. Thus, no model fit scores were reported. The Flesch-Kincaid reading level was equal to grade 12.8, and 28 low frequency words were identified. These findings highlight that characteristics of the respondents seem to impact the degree to which they perceive their principal to have particular relational attributes. The authors suggested women may value caring in a leader more than men, who value being empowered. Perhaps instead, it is that principals demonstrate more caring towards women and empower men more than women, in line with traditional gender roles. It is important to note people with different identities can experience the same leader or context in strikingly different ways. Despite being in a school setting, another limitation of this instrument is that is was designed for teachers, not students.

***Positive leadership assessment scale.*** In 2014, Antino, Gil-Rodríguez, Rodríguez-Muñoz, and Borzillo published a study that sought to develop and validate a shortened version of the Positive Leadership Assessment Scale (PLAS). There were 423 college students in the sample, all of whom were studying for their Bachelors in Psychology in Spain. Fifteen of the original items, three from each of the five categories (positive climate, positive relationships, positive communication, creating positive meaning, positive strategies) were used in the shortened version, and items were translated into Spanish. To fit the context, the word "employee" was changed to "student." The original item set in English (Cameron, 2012), had a Flesch-Kincaid level = grade 15.3, and 38 words were identified as low frequency. Participants were given a 5-point response scale ranging from never to almost

always. The five-factor model had acceptable goodness of fit measures, (CMIN/df = 2.811, CFI = .95, RMSEA = .068). Cronbach's alpha = .92 for the complete model, and ranged from .68-.75 for each individual factor. Although this scale's reading level would be difficult for high school students to complete, the consideration of the authors for attention span and survey fatigue is important, as students generally respond better to shorter assessments.

***Student leadership competencies inventory.*** Seemiller's (2016) Student Leadership Competencies Inventory (SLCI) was organized into eight competency clusters: learning and reasoning, self-awareness and development, interpersonal interaction, group dynamics, communication, civic responsibility, personal behavior, and strategic planning. The number of items in each cluster varied between 12 and 33 items. Participants were asked to self-assess their leadership competencies by indicating their level of agreement to statements on a 7-point scale. Data is currently being collected to test the validity and reliability of these scales. I did not determine the reading level of the items, as accessing the scale would contribute invalid data to Seemiller's data pool.

**Summary of leadership competency instruments.** As stated, nearly all of the instruments described were created for participants that were not high school students. Some instruments did not have enough data collected to conduct factor analysis; thus, these scales were not validated. The reading levels of most of the instruments reviewed were far too high for high school students to comprehend, particularly students who struggle with reading comprehension. Most of the Cronbach's alpha scores were in an appropriate range, but some were above .90 and others are below .70.

Each of these leadership scales contributes greatly to researchers, leaders, and educators' abilities to assess leadership competencies for themselves and others. However, there is clear

room for improvement. Firstly, the leadership assessments focused on assessing individual skills without regard for the interactive component of leadership or the context in which these skills are supported and developed. Redmond (2013) made clear the importance of developmental support in her conceptual model of youth leadership she puts forth in her dissertation.

Additionally, Rosch and Priest (2017) detailed a list of problems with assessment of leadership competencies, such as social desirability bias inflating self-reported scores and the negative impact of racial bias that sees leadership as "acting white" and reduces leadership scores for people of color. Also, the halo effect can positively skew assessments of people who the respondent sees in a positive light.

Another important consideration when measuring the views of youth is the readability of the items. For example, a seventh grade reading level may seem easy for students in junior high or high school. However, data from the 2015 National Assessment of Educational Progress indicate 28% of seniors in high school have only a "partial mastery of fundamental [reading] skills" (National Center for Education Statistics, 2017). Students who have been underserved by the existing educational structures (e.g., students of color, students from low socio-economic backgrounds, students new to English) should not be further excluded from student leadership initiatives that aim to address uneven power structures. Finally, many helpful tools have been created but not validated via factor analysis. Even some instruments that have undergone factor analysis would benefit from retesting with a larger sample.

Finally, many of the scales did not have optimal model fit scores. The RLQ did not conduct CFA, and thus did not provide model fit statistics in their report. Of the other scales, all of them reported having acceptable model fit, but the RMSEA scores for the PLAS and the

Chinese sample of the ALQ had RMSEAs ≥ .06, higher than the generally accepted <.05 level (T. Brown, 2015).

**Conceptual Model**

The items in this study are based on a conceptual framework organized around two intersecting models that address the questions, "How can educators build capacity for student leadership?" and "What kind of leadership should be fostered?" Mitchell and Sackney's (2011) three dimensions of capacity building: personal, interpersonal, and organizational suggest the levels for building capacity. The body of research on capacity building mechanisms suggest nine options, with eight of these included in this study's survey questions. Additionally the three leadership competencies: critical awareness, inclusivity, and positivity address the question of "What kind of leadership?" These three perspectives on leadership competencies are also built into this study's survey questions.

Mitchell and Sackney's (2011) dimensions of capacity building were created for an educational context. Therefore, this framework makes sense to use when assessing school mechanisms that support student leadership development. Specific mechanisms and processes identified in the student voice literature help provide context to deepen understanding of what these capacity building dimensions can entail. Some strategies fit into all three categories. For example, regular opportunities for professional development for students and teachers helps build individual skills for both youth and adults, promotes interpersonal growth by fostering youth–adult partnerships, and is supported by the mechanism of regularly scheduling professional development meetings on the school calendar.

The leadership competencies used in this framework are rooted in theories of adult leadership, but they are also found in youth leadership competencies. Critical awareness stems

from authentic leadership (Walumbwa et al., 2008) and social justice leadership Preskill and Brookfield, 2009) theories. It is also found in Kouzes and Posner's (1998) five practices as "challenge the process," Seemiller's (2016) student leadership competencies as "self-awareness and development" and "civic responsibility," and Redmond's (2013) "self-awareness" and "critical thinking." Additionally, critical awareness reflects a staple principle of organizational learning. Argyris and Schön (1974) state double-loop learning, or determining the root cause of organizational problems, is necessary to overcome organizational barriers to learning. Student voice scholars insist youth–adult partnerships generate double-loop learning (e.g., Brasof, 2014). Inclusivity is based on inclusive leadership theory (Booysen, 2013). It is also present in Seemiller's (2016) competencies as "interpersonal interaction" and "group dynamics" as well as Kouzes and Posner's (1998) practice, "enable others to act," and Redmond's (2013) collaboration and social-emotional emotional intelligence clusters. Finally, positivity comes from positive leadership (Cameron, 2012), but is also seen in youth leadership competencies: positive attitude (Seemiller, 2016), encourage the heart, inspire a shared vision (Kouzes & Posner, 1998), and confidence (Redmond, 2013).

Figure 2.2 provides a visual representation of the building capacity for student leadership model. The model is not hierarchical, as it is possible for a person or persons to build personal or interpersonal capacity without the support of organizational mechanisms. Although, organizational mechanisms certainly help facilitate capacity building. The additional images serve as a reminder schools should strive to develop critically awareness, inclusivity, and positive leadership. These competencies should be present at each of the three levels of capacity building. The items used in this study's scales are based off of this conceptual model. Chapter 3 provides additional details about the development and testing of the scales.

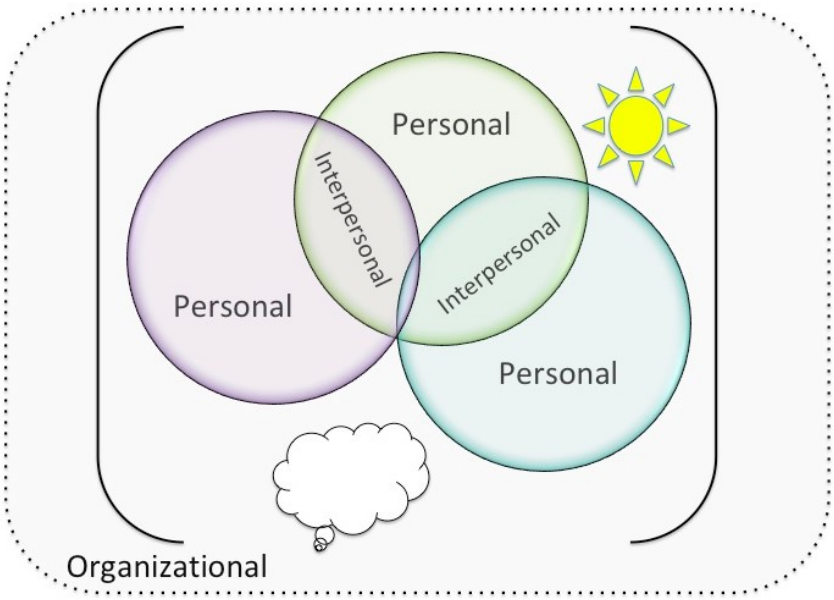


*Figure 2.2.* Building Capacity for Student Leadership Conceptual Model. Unlabeled images represent specific leadership competencies: the thought bubble represents critical awareness, the brackets represent inclusivity, and the sun represents positivity.

**Chapter II Summary**

Student voice researchers have identified ways in which educators are building capacity for student leadership. While traditional strategies such as building relationships, community partnerships, and pedagogical scaffolding were common, other strategies promoted a more democratic school environment in which students might have authentic opportunities to lead. Strategies such as radical collegiality, student-led action research, and inclusive governance structures are present in progressive schools. The existing research leaves several questions to be addressed: Does the existence of capacity building mechanisms at the personal, interpersonal, and organizational levels of the school impact the success and sustainability of student voice initiatives? Is there a particular combination of capacity building mechanisms required for success? Are schools that serve marginalized populations like students with dis/abilities and students who are new to the English language more or less likely to implement student leadership mechanisms?

A variety of adult and student leadership theories include the leadership competencies: critical awareness, inclusivity, and positivity. Are leadership education initiatives in schools promoting these competencies? Are they more focused on one than the other? Are these competencies infused into the personal, interpersonal, and organizational leadership capacity building mechanisms in the school? Do schools that focus on these particular leadership competencies foster more competent and involved student leaders?

Most instruments measuring student leadership or leadership competencies were made for adult respondents. As such, most high school students would have difficulty responding to the existing items. Additionally, some scales have not yet been validated. Only one of the scales reviewed in this chapter has been validated in a high school setting. Most of the scales limit their focus to assessing individual leader skills. The instruments reviewed do not assess a variety of student leadership capacity building mechanisms. Many questions remain regarding how to assess student leadership capacity building. Can a survey capture a school's student leadership capacity building efforts in detail? Do students have a clear enough understanding of leadership to be able to respond to such a survey? When surveying high school students who are new to English or have learning disabilities, what is a suitable reading level? How will students and teachers respond to survey results measuring capacity building structures in their schools? Will the conceptual model described in this chapter be supported by the survey data?

# Chapter III: Methodology

The purpose of this study was to develop and validate three scales that measure the degree to which a school builds student leadership capacity with regard to personal, interpersonal, and organizational capacity building. Competencies related to each of four leadership theories--authentic leadership, social justice leadership, inclusive leadership, and positive leadership--are embedded in the items measuring student leadership capacity building. The three leadership competencies represented across the items are: critical awareness, inclusivity, and positivity. Eight student leadership-fostering mechanisms are also embedded in the items. These mechanisms are: consistency, pedagogy, research, group makeup, governance structure, radical collegiality, relationship, and recognition. This chapter details the research procedures used in the study including the eligibility and recruitment of participants, data collection, scale development, data analysis, and qualitative feedback on the scale results.

## Research Questions

1a. What factors emerge through factor analysis with items designed to measure the degree to which a school builds personal capacity for student leadership?

1b. What factors emerge through factor analysis with items designed to measure the degree to which a school builds interpersonal capacity for student leadership?

1c. What factors emerge through factor analysis with items designed to measure the degree to which a school builds organizational capacity for student leadership?

2. What correlations exist between the three scales and is there evidence of discriminant validity?

3. Are there differences that emerge across subgroups of participants (e.g., year in school, socioeconomic status, native language, race, dis/abilities, academic performance, prior leadership experience) for each of the factor validated scales?
4. How do students perceive the presence of student leadership competencies and mechanisms in their schools?
5. How do school results of the scale align with school stakeholders' perceptions?
6. How do schools plan to use this information to further develop student leadership capacity?

**Mixed Methods**

Creswell and Plano Clark (2011) suggest a mixed methods approach to research is appropriate when, among other situations, a researcher wants to explain initial results, more deeply understand the problem through multiple phases, or to enhance the quality of the study. When designing a mixed methods study, a researcher must determine how the qualitative and quantitative strands in the study relate to each other. Questions to consider include:

- Will the strands be independent or interactive?
- Will they have equal priority or is one strand more dominant than the other?
- Are the strands used concurrently or sequentially?
- At which point in the study are the strands mixed (e.g., during interpretation, data analysis, data collection, or the design stage)?

Mixed methods is a relatively recent approach to research, formed around the late 1980s and a frequently used study design in the past few decades. While the approach is difficult to carry out, as it involves researcher expertise in both quantitative and qualitative methods, which often requires a team of researchers, there are several benefits. Mixed methods studies allow for

a deeper exploration of the research problem and make room for the inclusion of multiple worldviews in a single study.

**Research Approach and Justification**

This study utilized an explanatory sequential, transformative design of QUAN(qual) → qual. The purpose of a transformative design is to identify and challenge social injustices by elevating the voices of marginalized participants, in this case, students who are often barred from acting as leaders and decision makers in their schools. While qualitative methods are often preferred by critical scholars as it allows participants to tell their stories in their own ways and correct researchers' misinterpretations, the benefit of a transformative mixed methods design is the inclusion of quantitative evidence is often viewed as more "acceptable to stakeholders" (Creswell & Plano Clark, 2011), and thus may increase the likelihood adult leaders will take progressive action. Furthermore, quantitative data helps determine how phenomena are experienced among a wider variety of participants, and enables the development of validated instruments. The explanatory sequential design speaks to the inclusion of a secondary qualitative strand, within the context of the dominant quantitative strand. The purpose of an explanatory sequential design is to explain the quantitative findings.

As this study involves a transformative design, emancipatory theory was utilized in the design and interpretation of research data. Inclusion of diverse student voices was examined through feminist, racial, socioeconomic, and ability lenses. In addition to centering historically marginalized voices, the study also aimed to jump start a discussion and develop a plan for transforming structures that promote hierarchy and silence students rather than simply collecting data and allowing structural oppression to continue without taking steps to address it. This study also operates within the research paradigm of pragmatism because the priority is to inform

practice in a way that promotes values of democracy and equality. Pragmatism also rejects the traditional quantitative-qualitative binary in favor of a pluralistic use of theories and methods to answer research questions (Johnson & Onwuegbuzie, 2004).

**Research Design Phase 1: Scale Development**

The first phase of this research study involved the development of three scales designed to measure personal, interpersonal, and organizational student leadership capacity building. These proposed scales underwent exploratory and confirmatory factor analyses to determine model fit. Following the CFAs on the three individual constructs, the resulting scales were evaluated to determine if the items better fit into one overarching scale. Models were also examined for the leadership competencies and mechanisms retained in the final scale(s). Furthermore, tests were conducted to determine if student responses significantly differed by demographic group. This phase sought to address research questions one, two, three, and four.

**Construct definition.** Scale development involves several steps. First, the theoretical model guiding the development of a scale should be specified prior to the construction of any items (DeVellis, 2017). It may be a clear definition of the constructs the researcher intends to measure. Clear definitions of constructs are crucial to later scores of validity and reliability (Spector, 1992). It is wise to first look at existing terms and then explain the rationale for selecting a particular definition or creating an original definition (Abell, Springer, & Kamata, 2009). In addition to identifying how the new constructs are distinct from existing constructs, it may also be helpful to describe how the chosen constructs relate to other constructs in the field or related fields. Additionally, determining the level of abstraction or specificity of the constructs, considering the content, setting, and population of study makes the development of items easier. Researchers should be mindful to ensure they are proposing a construct, not an

overly inclusive category (DeVellis, 2017). The goal is to create the simplest explanation possible without forgoing quality (Spector, 1992). =

The theoretical model used to develop this study's three scales was described in Chapter II. Three dimensions form the basis of the three scales: personal, interpersonal, and organizational capacity building. This is based on Redmond's (2013) theory of youth leadership, which requires skill development and support and is situated in Mitchell and Sackney's (2011) capacity building theoretical framework. Within and across these three dimensions, are three leadership competencies: critical awareness, inclusivity, and positivity. Critical awareness is reflecting on, understanding, and questioning positive and negative attributes of one's self and society in order to foster equity and growth. Inclusivity is enabling all members to fully participate and learn from each other. Positivity is applying a strengths-based lens to facilitate growth and enable flourishing. These competencies were drawn from the adult leadership theories of authentic leadership, social justice leadership, inclusive leadership, and positive leadership as well as youth leadership competencies from Seemiller (2016), Kouzes and Posner (1998), and Redmond (2013). For a visual of the intersecting dimensions, see Table 3.1.

In addition to leadership competencies, eight of the nine student voce mechanisms identified through the literature review were embedded into the survey items. (The ninth, community partnerships, was deemed outside of the knowledge experience of the student survey respondents. Additionally, it seems to be assessed through the other mechanisms, as in the student voice research, community partnerships often enabled other mechanisms such as research and radical collegiality.) The mechanisms were present in the items for all three capacity building dimensions, although they are more heavily represented in the interpersonal and

Table 3.1

*Initial Item Pool: Leadership Competencies via Capacity Building Dimensions*

| | **Personal**<br>*This section is about learning leadership skills.* | **Interpersonal**<br>*This section is about working with others in the school.* | **Organizational**<br>*This section is about your school's culture, structures, and ways of communicating.* |
|---|---|---|---|
| **Critical Awareness:** *reflecting on, understanding, and questioning positive and negative attributes of one's self and society in order to foster equity and growth* | 1. In my classes, I am taught to name my feelings.<br>2. My teachers encourage me to ask "Why?"<br>3. In my classes, I learn to recognize the effects of my actions on others.<br>4. In my classes, I am asked to identify when only one side of an argument is presented.<br>5. My teachers teach me to challenge usual ways of thinking.<br>6. In my school, I am taught to see things from many points of view. | 1. I often work with others to gather information about important school issues.[3]<br>2. Groups at my school talk about how much progress they have made.<br>3. If I think a school policy is unfair, I work with others to try to fix it.<br>4. In group discussions, I see both students and teachers respectfully listening to critical feedback.[1] | 1. Students are often asked what they think the school is doing well and what the school could do better.[3]<br>2. At my school both students and teachers can ask questions and give input before school decisions are made.[6]<br>3. After a new rule or a new schedule is made, both students and teachers are asked to share their reactions to the change.[3] |
| **Inclusivity:** *enabling all members to fully participate and learn from each other* | 1. At my school, I am taught to make sure all voices are heard.<br>2. When doing group work in class, I learn to appreciate the differences each person brings to the group.<br>3. During class discussions, I am taught to balance listening and speaking.[2] | 1. At school, when there is a conflict we work through it respectfully.<br>2. In school, I learn from people who think differently than me.<br>3. Groups at my school only make decisions when every group member can live with it.[6] | 1. In my school, there is a clear process to share information between students and teachers.[5]<br>2. Times and locations of school committee meetings are clearly communicated.[5]<br>3. Before making a school decision, leaders ask what all the students think about it.[6]<br>4. Students in my school are often asked to be on committees that try to improve student learning.[7] |

| | | | |
|---|---|---|---|
| | 4. At my school, I learn how to work with people of different cultures and backgrounds.<br>5. My teachers explain ideas in many ways so all students can learn.[2] | 4. Groups at my school respect the voices of all members.<br>5. In my school, both teachers and students take time to build relationships with me.[4]<br>6. At my school, I am able to work with teachers to accomplish common goals.[1]<br>7. At my school, students and teachers work together to create lessons.[2] | 5. Students are invited to participate in school decisions that affect how learning happens.[6]<br>6. At my school, teachers believe they can learn from students.[1]<br>7. Students help create discipline policies for the school.<br>8. I know students who are on school committees with other students and teachers.[7]<br>9. At my school, students often have opportunities to talk about school issues in small groups.[7] |
| **Positivity:** *applying a strengths-based lens to facilitate growth and enable flourishing* | 1. At my school, I am taught to see a difficult assignment as a chance to learn.<br>2. At my school, I am asked to identify the strengths of others.<br>3. I am taught how to create an image of my best self in class.<br>4. I feel comfortable trying new things in my school.<br>5. At my school, I am taught to recognize times when I was at my best.<br>6. At my school, I am asked to think about what I can to do improve my skills. | 1. If a school leader disagrees with my idea, we listen to and learn from each other.[1]<br>2. I usually feel supported by both students and teachers in my school.[4]<br>3. At my school, students and teachers give more praise than criticism.<br>4. At school, students and teachers often celebrate accomplishments.[8] | 1. In my school, both students and teachers have regular opportunities to improve their leadership skills.<br>2. Students and teachers at my school attend workshops or trainings together.[1]<br>3. At my school, every student has a mentor with whom they have a positive relationship.[4]<br>4. Student schedules include time for mentoring.[5]<br>5. Student leaders at my school are formally recognized for the work they do to help the school.[8]<br>6. My school often tries new ways of doing things.<br>7. At my school, students are given academic credit for after school leadership activities.[8]<br>8. At my school, students are sometimes paid for the work they do to help the school.[8] |

Mechanisms: [1]radical collegiality, [2]pedagogy, [3]research, [4]relationship, [5]consistency, [6]governance structure, [7]group makeup, [8]recognition

organizational dimensions. Numbers written in superscript following the items in Table 3.1 indicate which mechanism is reflected in the item. The mechanism of radical collegiality is represented in five items. The governance structure and recognition mechanisms are included in four items each. Pedagogy, research, relationship, consistency, and group makeup are each represented in three items.

**Initial item pool.** When developing an initial item pool, it is important to remember the response to each item should measure the strength of the underlying construct. At this stage, the researcher creates an all-inclusive list of possible items, considering a variety of ways to measure the same content. If several items start with the same phrase, reliability may be overinflated. The items must maintain the same level of specificity to prevent overrepresentation of a sub-construct or overarching topic (DeVellis, 2017). Bernstein and Nunnally (1994) suggested the domain-sampling model of item development in which items are created to represent each domain or subscale within the construct.

***Number of items.*** The suggested number of items in the initial item pool varies. DeVellis (2017) suggested generating the inclusive list without being critical. Then, once the first list is completed, reviewing the items more closely for clarity, relevance, and excessive redundancy. The number of items is important, as it impacts the reliability scores of the scale. A large number of items may improve internal consistency. DeVellis (2017) recommended between three to four times the number of items anticipated in the final scale. Spector (1992) suggested between five to nine times the final scale, and Hinkin (1998) said at least twice as many items as the final scale. While it is important to have lots of initial items, the desire to validate a set of scales that would be accessible to students who struggle academically or for whom English is a second or third language, the number of items needed to be a manageable for

these students.

***Item quality.*** Quality items are clear, short, written at an appropriate reading level, and fit the construct being measured (DeVellis, 2017). Items should be fairly strong and accurately reflect differences of opinion. DeVellis (2017) asked scale developers to imagine how a typical respondent might answer and opt for wording that would generate a response near the center of the continuum. Researchers should avoid items that are double-barreled (express more than one idea in the same statement), use multiple negatives or include idioms or jargon. For clarity, DeVellis also suggested avoiding grammatical errors (such as ambiguous pronouns, misplaced modifiers, adjective forms in place of noun forms) and negatively worded reversals. While some scale developers argue the inclusion of reverse-scored items ensures the respondent answers thoughtfully (e.g., Spector, 1992), others contend the additional mental strain of processing negative items confuses the respondent and ultimately decreases the reliability of a scale (Gehlbach & Brinkworth, 2011). Additionally, researchers should avoid asking participants to divulge sensitive information that is not critical to the research (Gehlbach & Brinkworth, 2011).

***Response format.*** In the development of a scale, another component to consider is the format in which participants respond to the items. There are many strategies for scale scoring. Generally, respondents are provided a continuum of responses following each item, and the scale score is computed by adding up the responses to each item. In this case, the most common response formats are Likert scales which ask participants to express either their agreement with, evaluation of, or frequency of experience with statements on an equal interval continuum (Spector, 1992). Although incredibly popular, Krosnick (1999) noted that asking participants to agree or disagree with a statement may lead to acquiescence, as participants aim to please the researcher, or satisficing, as respondents experience fatigue that reduces the effort

spent on finding reasons to disagree with the statements.

Scale developers vary in their preference for the number of response options in a Likert scale. Some argue there should be an even number of options so when indicating agreement or evaluating a statement, the response must be either positive or negative. Others like to provide a middle response that allows respondents to indicate the absence of a positive or negative opinion (Baron, 2018). Between five and seven response choices is recommended as more response options provides greater detail, but too many response options will not allow the respondent to meaningfully discriminate between the available options (Abell et al., 2009). In order to enhance reliability, each answer choice should be labeled with a word, rather than a number, as people have different implicit meanings of numbers (Tourangeau, Rips, & Rasinski, 2000). Additionally, response choices should not overlap or be ambiguous in their wording (DeVellis, 2017). Finally, all items in a factor analysis must have the same response scale (Baron, 2018).

Prior to the start of this dissertation study, initial items were generated for the three scales following a synthesis of literature from the fields of student voice, civic engagement, youth and adult leadership, and looking at items in existing scales within each of these fields. Items were developed as statements with a six-point agreement response scale: 1 (*strongly disagree*), 2 (*disagree*), 3 (*somewhat disagree*), 4 (*somewhat agree*), 5 (*agree*), and 6 (*strongly agree*). The initial item pool contained 77 items that were analyzed to ensure the lowest reading level possible using the website Rewordify.com. The personal capacity proposed scale items were equal to a Flesch-Kincaid score of 5.0, with one low frequency word. The interpersonal capacity proposed scale items were equal to a 7.2 Flesch-Kincaid score, with four low frequency words. The organizational proposed scale items scored an 8.0 Flesch-Kincaid rating, with seven low

frequency words, one of which is defined in the context above the items. No reverse-scored items were included.

**Send to reviewers.** Following initial item development, the construct definitions and initial item pools were sent to experts in the field. Abell et al. (2009) recommended sending this to six to ten experts who are scale developers, academic content specialists, people who work in the field of interest or with the target population, or members of the target group. Expert reviewers should be given specific instructions to rate how well the items fit with the defined constructs (e.g., poor fit, ok fit, good fit, great fit). In her dissertation, Baron (2003), gave experts informational handouts with detailed descriptions and examples of each construct in order to help the experts more fully understand the description of the construct prior to rating the quality of fit of the items (Abell et al., 2009). The scale developer can also invite experts to edit phrasing for clarity, suggest additional items, or provide other feedback as desired. Some researchers engage in cognitive pretesting at this stage, whereby they conduct interviews with members of the target population in order to ensure respondents understand the questions as the researcher intends. Participants may be asked to repeat the question in their own words and think out loud as they answer the question. The researcher can ask follow-up questions at the conclusion of the interview to gain a deeper understanding of how the questions and overall task were understood (Gehlbach & Brinkworth, 2011).

In this study, after initial scale items were developed, they were sent to doctoral students in a leadership studies program, several of whom are specializing in scale development, high school teachers, high school students for whom English is a New Language, and student voice scholars. These reviewers were asked to rate each item for fit within a specified construct (i.e., personal, interpersonal, or organizational capacity building) on a four-point scale: *poor fit, ok fit,*

*good, fit, great fit*. Reviewers were also asked to select the items that best fit each construct. Additionally, open response boxes were included after each section to provide space for suggested revisions to items, comments, or questions. Adults were asked to provide feedback via SurveyMonkey, while students were asked to respond on paper. Students also had the opportunity to ask questions or provide verbal feedback in lieu or in addition to written feedback so as not to preclude students who have difficulty writing from providing feedback.

The learning activities were framed according to the three dimensions of capacity building. High school students identified words or items they did not understand, and together, we revised the statements so they were comprehensible. Following additional conversations with my dissertation chair, items were revised to stand alone without context and eliminate parentheses. The statistical feedback reviewers provided regarding fit provided a clearer picture of which items were weak (*poor or okay fit*) and which were strong (*good or great fit*). Respondents noted their favorite items in each section; many often overlapped. Additional feedback included specific suggestions for changes to individual items as well as broader suggestions, such as more clearly defining terms at the start of the survey. For example, I collapsed a subsection of items relating to mentoring into the three capacities.

Following these revisions and prior to the pilot test, the updated item pool was sent to additional expert reviewers that are student voice researchers. Items underwent further revision in accordance with expert suggestions. Constructs were clarified further in introduction sections prior to the scale items. Additionally, the language of items involving students and teachers in the statement was clarified to include one of the groups or, when speaking about both students and teachers in a group, the term “both” was employed in the statements.

**Create survey.** Scale items are delivered to participants in the context of a survey, which should be organized like a conversation (Baron, 2018). First, instructions tell respondents how to use the scale. Spector (1992) stated researchers may also want to include construct-specific instructions like describing an example for a "common frame of reference" (p. 27). While scales can be delivered orally, Spector (1992) cautioned, "one should not assume that the oral version will have the same psychometric properties as the written. At a minimum, the item analysis should be conducted on a sample of respondents who were administered the scale orally" (p. 26). Baron (2018) encouraged survey developers to pay particular attention to the order of questions. Immediately following a small number of questions that determine eligibility for inclusion in the study, she advised beginning with interesting questions that draw in the respondent and help them reflect on the topic. Questions should be broken into sections by topic and an open-ended question should follow each topic area to provide space for additional comments or reflection. With the exception of questions that establish respondents as members of the study's target population, demographic questions are best placed at the end of the survey, as they do not entice respondents to continue with the survey. An optimal survey length is ten to fifteen minutes.

This study's survey included the following sections:

Section 1, Introduction: This section provided participants with a brief overview of the study's purpose, the importance of their responses, and their rights to refuse participation and remain anonymous.

Section 2, Filter Questions: This section asked questions to determine if the student was eligible to participate. Students were asked how long they had attended their high school and whether they understood the directions and questions thus far. Students that indicated they had

been at the school for three months or more and that they understand the directions and questions in the survey so far (an indication of their English language comprehension) were eligible for participation.

Section 3, Personal Capacity Scale Items: In this section, participants were asked to indicate their level of agreement to several statements that aimed to measure student perceptions of personal leadership capacity building. Students responded on a six-point Likert scale that included the following options: *strongly disagree, disagree, somewhat disagree, somewhat agree, agree, strongly agree*. This section concluded with an open-ended question to encourage participants to share any experiences or thoughts that arose when responding to the items on personal capacity building.

Section 4, Interpersonal Capacity Scale Items: In this section, participants were asked to indicate their level of agreement to several statements that aimed to measure student perceptions of interpersonal leadership capacity building. Students responded on the same six-point Likert scale. This section concluded with an open-ended question to encourage participants to share any experiences or thoughts that arose when responding to the items on interpersonal capacity building.

Section 5, Organizational Capacity Scale Items: In this section, participants were asked to indicate their level of agreement to several statements that aimed to measure student perceptions of organizational leadership capacity building. Students responded on the same six-point Likert scale. This section concluded with an open-ended question to encourage participants to share any experiences or thoughts that arose when responding to the items on organizational capacity building.

Section 6, Demographic Questions: In this section, students were asked to respond to demographic questions including: grade or year in school, race/ethnicity, home language, socioeconomic status (approximated by hours working per week), academic grades, and dis/ability (whether a student has an IEP).

Section 7, Thank You: This section thanked participants for their time. It also offered an opportunity for students to participate in a follow-up focus group to discuss the school's results and share additional feedback. If interested, students emailed the researcher.

**Pilot test.** Following the final expert review, the subsequent revision of items, and the creation of the full survey, the next phase of scale development was the pilot test. The pilot test was conducted with 38 students to ensure the target population understood the items and directions. The pilot test served as an opportunity to try out the processes involved with having students take the survey (e.g., technology access, internet connectivity). In this study, pilot testing was conducted with one of my high school classes for students who recently immigrated to the United States. No significant changes were made to the personal or interpersonal scales. A few items in the organizational scale were changed after the pilot.

**Data collection.** The prescribed sample size for factor analysis varies, but a common suggestion is 300 respondents (Nunnally, 1978). If the sample size is too small, the factor analysis may indicate an inflated level of internal consistency (DeVellis, 2017). Some scholars advise using a ratio of items to respondents between 1:5 and 1:10 (Gorsuch, 1983; Hinkin, 1998) to determine the sample size. A ratio below 1:3 is not sufficient (Velicer & Fava, 1998). Samples between 150 and 200 are likely acceptable if communalities are higher than 0.50 or there is an item:respondent ratio of 1:10 and factor loadings are 0.40 or higher (Worthington & Whittaker, 2006). Stevens (2009) created a table that shows the critical value needed for

statistical significance for a given sample size. As sample size increases, the required critical value decreases. Stevens also cited a study by Guadagnoli and Velicer (1988) that indicated the factor saturation and absolute sample size are the most important aspects to consider when determining sample size. The magnitude of the loadings may decrease as sample size increases. Whichever number is determined necessary for an appropriate sample size, this must be determined prior to data collection (Worthington & Whittaker, 2006).

In addition to ensuring an appropriate size, the sample must also be representative. Worthington and Whittaker (2006) noted, it is "not necessary to closely represent any clearly identified population as long as those who would score high and those who would score low are well represented" (p. 816). However, it is wise to include a diverse set of people in case certain characteristics influence the latent variable. If a sample is not representative, internal consistency will not be affected, but the relationship between items and constructs may vary from the relationship in the larger population, which would be problematic (DeVellis, 2017).

In this study, data were collected from urban and rural public high schools. All students had an opportunity to take the survey within the school day as long as they had been in the high school for a minimum of three months. As shown in Table 3.2, context was provided prior to each set of scale questions to further define and provide relatable examples of each construct.

Table 3.2

*Context Given Prior to Scale Items*

| Capacity Building Dimension | Context Provided |
|---|---|
| Personal | This section is about learning leadership skills.<br>Here, you will be asked to think about the opportunities you have to develop leadership skills in school. Examples of leadership skills are critically reflecting on your actions, considering different points of view, or identifying your strengths. |
| Interpersonal | This section is about working with others in the school.<br>Here, you will be asked to think about how you work with teachers and staff to talk about school issues and help make school decisions. |
| Organizational | This section is about your school's culture, structures, and ways of communicating.<br>Here, you will be asked to think about the big picture of how your school works. Examples of school structures could include: the ways your school shares information with teachers and students, spaces for students to give their opinions on school issues, or leadership positions for students and teachers.<br>Definitions in this section:<br>• *School committees*: any groups that try to improve student learning (like technology committee, restorative justice committee, Mastery-based grading, school board).<br>• *School decisions*: any decisions that impact student learning (like which classes are offered, schedules, grading policy). |

**Study participants.** Similar to this study's pilot test criteria, participants in the full sample were from high schools whose language of instruction was English. Students must have attended the school for a minimum of three months to be eligible. To obtain a large sample size, requests for participants were primarily sent to network leaders of schools in New York City. However, as the sample was still small after exhausting my New York City contacts, I reached out to personal contacts working with high schools in urban and rural areas across the United States, including student voice educators who work with high schools that seek to improve student leadership. The urban schools that responded were located in New York City. One rural

school was located in New York, and one was in Vermont. All urban schools in the study were portfolio schools, which means students must complete portfolios in lieu of standardized tests for graduation. Three of these schools were designed specifically to serve recent immigrants new to the English language. The homogeneity of the sample is a limitation of this study.

An Institutional Review Board (IRB) application was sent to the NYC Department of Education's Institutional Review Board. After receiving permission from the NYC Department of Education, I emailed individual schools' principals to obtain permission to distribute the survey in schools. After obtaining this permission, I provided a letter the school sent home to parents informing them of the study and providing them with my contact information for questions or to opt their child out of the survey. At an agreed upon date and time, I visited schools to hang fliers with the survey digital link and QR code. The QR code enables students to open the survey on their phones by holding their phones in front of the poster. I also made classroom announcements during advisories or study halls about the availability of the survey, and provided a digital platform or paper copy of the survey for students to take during non-instructional time (i.e., study hall, lunch time, advisories, or after school). A revision was made to the IRB through Antioch University to include two rural schools. Written letters of authorization were obtained from either the principal of the school or the superintendent of the district. These letters and formal IRB approvals are in Appendices M and J, respectively. Recruitment for students from rural schools involved sending fliers with a digital link and QR code to rural school principals along with a 90-second informational video via email. At one rural school, students were presented with an opportunity to take the survey in their Social Studies classes. At the other rural school, the opportunity to take the survey was announced in a town hall meeting, and the survey link was emailed to students by their principal.

Students participating in the Phase 1 survey were informed of their rights to remain anonymous and to refuse participation on the first page of the survey. Students had the option of taking the survey digitally or on paper, depending on the availability of technology and access to the Internet. Informed consent detailing the purpose of the study, participants' rights to refuse to answer questions and maintain anonymity was shared orally and in writing. The first question of the survey asked for consent. After completing the survey, the last page of the survey invited students to email me if they were interested in participating in a focus group to discuss student leadership further. For teachers participating in Phase 2 of the study, consent forms were distributed for participants to fill out themselves. Students needed to obtain a parent or guardian's signature on the consent form in addition to their own signature on an assent form prior to the start of the focus group. Focus groups were scheduled for times in which the majority of interested participants were available.

**Data analysis.** Following data collection, survey results were analyzed using exploratory factor analysis in SPSS and CFA in AMOS. In addition to the factor analyses, both SPSS and AMOS were used for descriptive and comparative statistics related to the leadership competencies and mechanisms for building student leadership capacity. There are few hard rules during the process of factor analysis, but there are several guidelines that inform the many decisions that were made during the quantitative data analysis phase of this study. This section summarizes scale researchers' various suggested approaches and criteria for item and model fit. This section also describes the approaches and criteria used in this study.

***Exploratory factor analysis.*** An exploratory factor analysis using Principal Component Analysis (PCA) was conducted. Factor analysis is a data reduction process that seeks to determine the fewest number of items that can fully describe and measure the constructs. Thus,

the exploratory factor analysis tries to find how many constructs underlie the set of items, define these constructs, and reduce the original set of items to only the most relevant items to the constructs. Oftentimes, scale developers do not know exactly what the factors will be ahead of time, and factor analysis helps to determine the factors present (DeVellis, 2017). Baron (2018) pointed out there are no hard and fast rules during factor analysis, and thus proposes guiding decision questions, relating to: factorability, type of factor analysis, rotation, component retention, and item retention.

*Factorability.* Before running factor analysis, measures of skewness and kurtosis should be run on all items to determine normal distribution. Extreme skewness or kurtosis above 2.5 or 3 should be eliminated before beginning factor analysis, as these high scores indicate the data violates the assumption of normal distribution. Next, to ensure items are related to the overarching construct, bivariate correlations should be run for all items. Items that do not correlate with another item at or above .30, which indicates less than a 9% (.3 x .3) shared variance, are eliminated before conducting factor analysis (Baron, 2018). Worthington and Whittaker (2006) suggested using the Kaiser-Meyer-Olkin (KMO) sampling adequacy measure of =>.60 to determine if the sample is large enough for factor analysis. This dissertation checked for measures of skewness and kurtosis < 3, items that did not have a bivariate correlation with any other item => .30, and KMO > .60.

*Type of exploratory factor analysis.* An exploratory factor analysis uses a correlation matrix for all of the items to compute item-total correlations, which represent causal pathways from the latent variable to the items. Projected inter-item correlations are calculated based on a single factor model, and then compared with actual inter-item correlations. This produces residual correlations, and if these are large, the single factor model does not work. If this is the

case, a second factor can be extracted from the residual matrix (a matrix showing all of the residual correlations after the first extraction). This continues until the appropriate number of factors is extracted.

There are two common extraction methods used during exploratory factor analysis: principal component analysis (PCA) and principal axis factoring (PAF) also known as common factor analysis. Both act as a guide to making decisions about whether to retain or eliminate items. Ideally, the analysis will be run until the items load onto one factor, but in the case of a multidimensional scale, each factor will act as a subscale. PCA is generally the default in statistical analysis packages, as it is easier to interpret. PCA uses the term "components" instead of factors and measures the total variance of items. This procedure simply reorganizes the original data, aiming to preserve as much of the original item variance as possible (Worthington & Whittaker, 2006). Components are defined by how participants respond to scale items (DeVellis, 2017). Due to its reported ease of interpretation, this dissertation employed PCA.

*Rotation.* As DeVellis (2017) stated, "The raw, unrotated factors are rather meaningless mathematical abstractions" (p. 170). Rotation is performed prior to interpreting factors so the data is easier to understand. It helps align the initial solution, which only provides information on the number of factors, not the content of interest. During rotation, the data is merely shifted, and the relationships between variables remain unchanged. Varimax is a commonly used rotation method. It is ideal to maximize the variance of squared loadings for each item so there are large loadings on one primary factor and the rest of the loadings are close to zero. This indicates a "simple structure" or single factor model (DeVellis, 2017). Worthington and Whittaker (2006) noted a simple structure can improve CFA results, as structural equation

modeling (SEM) assumes a simple structure**.** There are two types of rotation: orthogonal and oblique. Orthogonal rotation is used when factors are not correlated and can be treated as separate, subscales within the overarching concept (Baron, 2018). In this dissertation, varimax, an orthogonal rotation, was used, as this rotation method makes it easy to see the distinct components.

*Component retention***.** The next question to address is: What criteria will be used for retaining components? Scale development theory offers a number of options. Hinkin (1998) suggested a factor that accounts for 60% of total variance should be retained. Kaiser's (1958) eigenvalue rule eliminates all factors with eigenvalues of less than one, as that indicates the factor accounted for less variance than one individual item. Cattell (1966) argued for inclusion of factors above the elbow of a scree plot, which have relatively large eigenvalues. Worthington and Whittaker (2006) stated that some researchers recommend deleting factors with less than three items, but claim it is possible to keep factors with only two items if they have correlations above .70 and are uncorrelated with other factors. Whichever criteria is chosen, Worthington and Whittaker (20016) argued that it is important to ensure the retention of factors that make conceptual sense. Items with common phrases might appear as a factor despite including conceptually different content. Baron (2018) noted labels for the derived factors should be named in accordance with theoretical concepts. In this dissertation, components with eigenvalues above one, which were at or above the scree plot's elbow were retained. Factor structures accounting for approximately 60% or more of the variance were retained.

*Item retention***.** Items whose communalities are less than a specified level after rotation are deleted. Ford, MacCallum, and Tait (1986) and Worthington and Whittaker (2006) recommended deletion for items with communalities < .40 after rotation. Worthington and

Whittaker (2006) recommended deleting items with absolute loadings above .32 on more than one factor. As mentioned in the discussion of sample size above, Stevens (2009) noted sample size impacts the required critical value for retention. Thus, a larger sample size would enable retention of items with lower loadings. For a sample of 300, Stevens (2009) recommended deleting items with minimum loadings of .298 (p. 332). Although it is important to consider optimal scale length, Worthington and Whittaker (2006) noted it is important to "retain potentially meaningful items early in the process and to optimize scale length only after the factor solution is clear" (p. 823). After the factor solution is clear, items may be considered for deletion if they have the lowest factor loadings, highest cross-loadings, smallest contribution to internal consistency, or lowest conceptual consistency (Worthington & Whittaker, 2006). In this study, items that did not load on a component at .40 or higher or that loaded on more than one component at .40 or higher were deleted.

*Reliability.* DeVellis (2017) stressed the importance of reliability stating Cronbach's alpha is "one of the most important indicators of a scale's quality" (p. 94). He went on to say, "reliability is a necessary condition for validity" (p. 131). Cronbach's alpha ranges from zero to one and serves as a measure of reliability that indicates how well items in a scale vary together. It is influenced by strength of inter-item correlations as well as the number of items in a scale, and Cortina (1993) warned it can be artificially high. For good reliability, Cronbach's alpha should be higher than .70, but less than .90 (Nunnally, 1978, p. 248). In this study, Cronbach's alpha was always above .70, but for some scales, it exceeded .90.

*Exploratory factor analysis summary.* In this study, KMO was run prior to factor analysis to determine whether the sample was suitable for factor analysis. In SPSS, the PCA method and varimax (orthogonal) rotation was used for the exploratory factor analysis. Factors

with eigenvalues below one or below the elbow of the scree plot were eliminated. Items with loading levels below .40 or which cross-loaded on more than one factor at .40 or higher were deleted. Cronbach's alpha was above .70.

***Confirmatory factor analysis (CFA).*** Following PCA, CFA was conducted. CFA serves two purposes: to analyze the goodness of fit of the model proposed during the exploratory factor analysis as well as the fit of individual items within the model (Hinkin, 1998). During this procedure, researchers test the scale for convergent validity (strong correlations with existing scales measuring similar concepts), discriminant validity (low correlations with scales measuring different concepts), and predictive validity (ability to predict outcomes). The items that were retained following PCA were entered into graphic models in AMOS. Model fit was assessed, and as model fit was initially poor, items were deleted or covaried with other items. Gaskin (2016) provided guidelines for when to delete or covary items based on modification indices (over 20) and standardized residual covariances (over 2.58). For this study, modification indices over 15 and standardized residual covariances over 1 were considered for deletion. Finally, reliability and validity scores were reported for the models.

*Goodness of fit measures.* Next, the models were tested for goodness of fit. There are several measures of goodness of fit. The Chi-Square fit index calculates the difference between the observed and estimated covariance matrix. It should not have statistical significance ($p >$ .05). Since Chi-Square is influenced by sample size, a relative Chi-Square can be calculated by dividing Chi-Square by the degrees of freedom (CMIN/df). This statistic is less impacted by sample size, and a score below two or three indicates a good fit (Arbuckle, 2012). The comparative fit index (CFI) also corrects for degrees of freedom, thus making it less susceptible to large changes based on sample size (Hinkin, 1998). The CFI is used when assessing the fit of

a single model. It compares the degree of fit for the proposed model and the null model. Scores range from zero to one, and a good fit is indicated by scores > .95 (Hu & Bentler, 1999). Additionally, the root mean square error of approximation (RMSEA) is used with large samples, and scores < .05 represent a good fit (T. Brown, 2015). This dissertation aimed for the following model fit scores: CMIN/df < 3, CFI > .95, and RMSEA < .05.

*Reporting CFA findings.* When reporting CFA findings, all decisions, rationales, and procedures should be clearly described (Worthington & Whittaker, 2006). The statistical criterion for evaluating the fit of the model should be stated, but DeVellis (2017) warned, this could lead to the over inclusion of factors and "there is no guarantee that a more complex model that statistically outperforms a simpler alternative is a more accurate reflection of reality" (p. 198). Thus, it is important to make sure the factor model has practical relevance. At minimum, Hinkin (1998) stated the following should be reported: the Chi-Square statistic and its level of significance, degrees of freedom, recommended goodness-of-fit indices for each model, factor loadings, and modification indices (in cases where they led to changes in the model). Finally, in order to ensure model fit, all factor loadings should be significant at $p < .05$ (Hinkin, 1998).

This study reported CMIN/df for absolute fit, CFI for comparative fit, and RMSEA for parsimony correction (T. Brown, 2015). This dissertation considered deleting or covarying items if they had modification indices above 15 or standardized residual covariances above 1. Following the CFAs of the three separate scales, the scales were entered into one model to determine the correlations between factors. The results indicated the factors were highly correlated, and so a new model was tested to see if all items retained in the three separate scales fit into a single-factor model. After this, a new PCA and CFA were run using all of the items across the three scales. Items deleted through the CFA process to improve model fit were

identified and reported in the CFA results, in Tables 4.11, 4.12, 4.13, and 4.15. All of the final scale models were reviewed for optimal length while also ensuring model quality.

Finally, to evaluate reliability and validity of the models, composite reliability (CR), average shared variance (AVE), and maximum shared variance (MSV) statistics were run. CR, a reflection of the scale's overall reliability, should be > .7. AVE measures how well the items within a factor correlate with one another, and it should be > .5. MSV assesses discriminant validity, and should be less than the value of the AVE (Hu & Bentler, 1999).

Following CFA, this study also conducted comparative analysis to determine differences between demographic groups. Demographic questions in the survey included: grade, length of time in the school, race, home language, and ability (whether a student has an IEP). Metric invariance tests were run in AMOS to determine if participants' responses to scale items significantly differed by demographic group. For example, this analysis helps determine whether students with IEPs reported feeling less support from the school in developing leadership than students without dis/abilities.

***Descriptive and comparative statistics.*** Based on all survey respondents ($n$ = 280), averages were computed for items intended to measure all student leadership competencies and mechanisms. Mean scores were calculated using response codes for all of the initial items within each of the three student leadership competencies and the eight mechanisms, mean scores were also calculated using data from the full sample. Next, leadership competency and mechanism mean scores by school were computed and compared using ANOVAs with Tukey post-hoc tests. These data were analyzed to determine if significant differences existed between schools on mean scores for student leadership competencies or mechanisms.

**Research Design Phase 2: Focus Groups, Interview, and Open-ended Survey Questions**

The purpose of this phase was to facilitate narrative input about building student leadership capacity. In addition to the open-ended survey prompts ("If you have any specific examples or comments about learning leadership skills you would like to share, please type them here," "If you have any specific examples or comments about working with others on school issues you would like to share, please type them here," and "If you have any specific examples or comments about school culture and structures you would like to share, please type them here."), post survey focus groups and interviews were conducted. The post survey focus groups and interviews sought to determine the degree to which school stakeholders found the scale results to be reflective of their experience at their schools and useful for practice. Participants in this phase also suggested improvements to how survey data was collected from students and how results were reported to schools. Phase 2 of this study addresses research questions five and six.

**Participants.** All survey respondents were offered the option of giving narrative responses to the open-ended survey questions. Student participants were eligible for the interviews or focus groups if they completed the Phase 1 survey and indicated their interest in participating in a follow-up discussion. After completion of the survey, students were asked to email the researcher if they were interested in participating in Phase 2. This preserved anonymity, as participant names are separated from survey responses. Adult participants were eligible to participate in the focus groups or interviews if they worked with students who took the survey (e.g., teachers, paraprofessionals, instructional coaches, administrators).

**Instrument and data collection.** A total of 107 narrative responses from students in all of the study schools were collected from the open-ended questions on the survey. One focus group consisted of three students from ENL1, and one consisted of ten staff members from ENL1. One teacher from Portfolio5 participated in a qualitative interview. First, participants were shown all of the schools' mean scores for the items measuring the eight mechanisms. Participants received a report with their school's scores highlighted. Then, using a semi-structured interview protocol, participants were asked to answer several questions. Responses were recorded and transcribed for analysis. Pre-determined questions for focus group participants were as follows:

- What are your thoughts about these results?
- How useful is this information to your work?
- How do you plan to use this information?
- How could the survey or report of results be improved?
- What are your thoughts about the underlying leadership competencies of critical awareness, inclusivity, and positivity?

Notes taken during the session were transcribed for analysis.

**Data analysis.** The process of inductive coding suggested by Boyatzis (1998) was followed. Once focus group and interview data were transcribed, memoing was used to create categories and indexed the raw focus group and interview data into categories. Next, an outline was produced by reducing the raw information, identifying themes in the subsamples, and comparing themes across subsamples. The codes were also applied to the narrative responses to the open-ended survey questions. Differences in subsamples in relation to the identified themes were identified. The synthesis of qualitative findings from the different schools was presented as overarching themes that may be transferable and useful in a variety of school contexts.

**Ethical Considerations**

Considering this study involves students under the age of 18, extra precautions were taken to ensure informed consent and protection of the participants. Anonymity was crucial for participants in this study, particularly for students who may be undocumented. A full IRB review was held prior to the study. Protections included written and verbal assurances that participation was voluntary and no names would be used in the reporting of the data. Surveys did not ask for names at any point, and respondents with potentially identifiable demographics (given minority status in a school population) were aggregated in the presentation of the data so as not to identify the responses of one or two individuals. During the second phase of the study, students discussed the results and shared their thoughts in a students-only focus group and interview, which was separate from the adults-only focus group and interview to avoid possible backlash from adults who may be resistant to hearing potentially critical observations of the school. Furthermore, when reporting data, all participants that took part in the focus groups were not referred to by name, and the schools to which they belonged were given pseudonyms. An additional consideration due to my position as a teacher at one of the schools that participated in the study is that students or staff members at my school may have felt obligated to participate in the study. To help with this, participants were reminded participation was optional.

Finally, when interpreting the data in this study, it was important that the diversity of student voices be preserved. One major critique of current student voice practices is the erasure of diversity and the multitude of perspectives and experiences present within a student body. While students who responded to the survey were quite diverse, there were not a wide variety of views represented in the focus group, as only three students participated.

## Study Design Limitations

Limitations of this study include those that are a result of the predominantly quantitative methodology. For example, responses to scale items prevented students from fully sharing their perspectives on the topic, whereas in a predominantly qualitative study, more detail would have emerged. Additionally, although the scales were specifically designed for students in order to center their voices and disrupt traditional power dynamics, this design precluded teachers from sharing their perceptions in the first stage of the study. Relatedly, students may not have been aware of existing opportunities in the school, which may be a function of insufficient advertising or inclusion more than the actual presence of mechanisms. In terms of sample size, a typically acceptable sample size is 300, but due to overrepresentation of one school in the sample and unengaged cases flagged for removal, the final sample size (280) was below 300. Another limitation is the restricted generalizability of the findings. New York City and rural high schools may not be representative of high schools in other locations of the country. Despite having two rural schools participate in the study, as a function of my connections and geographic location, most participants were from progressive, urban, public schools that serve immigrant students. Certainly, the qualitative sample was limited as well, as data collection was limited by the end of a school year and only three students and teachers from only two schools participated in Phase 2.

## Chapter III Summary

This study aimed to develop and validate three separate scales that measure the degree to which schools engage in personal, interpersonal, and organizational capacity building for student leadership. Students' responses to scale items were analyzed using exploratory and confirmatory factor analyses to statistically identify factors and determine the best model fit of the scales or scale. As an added outcome, the data also resulted in an overarching scale on building student

leadership capacity. Furthermore, the data provided descriptive information about students' perceptions of student leadership competencies and mechanisms in their schools. In Phase 2 of the study, students and adults participated in separate focus groups and provided feedback on the accuracy and usefulness of scale results for their schools.

# Chapter IV: Research Findings

The purpose of this study was to develop and validate a set of scales that measure how schools help students build leadership capacity. This study used a mixed methods approach consisting of two phases. Phase 1 gathered survey data to analyze using descriptive, comparative, and exploratory and confirmatory factor analyses. Phase 2 asked students and teachers of students who completed the survey to participate in focus groups to discuss their school's survey results. This chapter details the findings from both phases of the study. The following research questions were addressed in Phase 1:

1a. What factors emerge through factor analysis with items designed to measure the degree to which a school builds personal capacity for student leadership?

1b. What factors emerge through factor analysis with items designed to measure the degree to which a school builds interpersonal capacity for student leadership?

1c. What factors emerge through factor analysis with items designed to measure the degree to which a school builds organizational capacity for student leadership?

2. What correlations exist between the three scales?

3. Are there differences that emerge across subgroups of participants for each of the factor validated scales?

4. How do students perceive the presence of student leadership competencies and mechanisms in their schools?

The following research questions were addressed in Phase 2:

5. How do schools' results on the eight mechanisms align with school stakeholders' perceptions?

6. How do schools plan to use this information to further develop student leadership capacity?

**Phase 1**

The purpose of this phase was to address the first four research questions. In this phase, survey data were collected and cleaned. Following this, the data were analyzed using exploratory and confirmatory factor analyses to determine the best model fits for the proposed scales.

**Data cleaning.** Data collected were downloaded from Survey Monkey® to Microsoft Excel®. A total of 536 responses were received. Responses were reviewed for completeness. A survey was considered complete if participants responded to all required items: screening questions and items from all three proposed scales. Table 4.1 provides a breakdown of the number of participants that completed each of the required questions.

Table 4.1

*Number of Completed Survey Responses (based on required questions)*

| Questions | # Removed | # Remaining |
|---|---|---|
| Q1. I have read and understand the survey introduction, and I voluntarily choose to take this survey. (Response: Yes) | 40 | 536 |
| Q2. How long have you attended your school? (Response: More than 3 months) | 12 | 484 |
| Q3. Do you understand the survey description and directions stated on the first page? (Response: Yes) | 18 | 466 |
| Q4. Thinking about learning leadership skills in school, how strongly do you agree or disagree with the following statements? (Completed Personal item a through Personal item h) | 27 | 439 |
| Q5. Thinking about learning leadership skills in school, how strongly do you agree or disagree with the following statements? (Completed Personal item i through Personal item q) | 17 | 422 |
| Q7. Thinking about working with teachers and students in school, how strongly do you agree or disagree with the following statements? (Completed Interpersonal item a through Interpersonal item h) | 12 | 410 |
| Q8. Thinking about working with teachers and students in school, how strongly do you agree or disagree with the following statements? (Completed Interpersonal item i through Interpersonal item o) | 7 | 403 |
| Q10. Thinking about the structures and culture of your school around student leadership, how strongly do you disagree or agree with the following statements? (Completed Organizational item a through Organizational item h) | 11 | 392 |
| Q11. Thinking about the structures and culture of your school around student leadership, how strongly do you disagree or agree with the following statements? (Completed Organizational item i through Organizational item t) | 9 | 383 |

After removing incomplete responses, 383 complete responses remained and were further analyzed for inclusion. An additional 29 cases were flagged for removal as the participants entered the same response for all of the 52 scale items or completed the whole survey in less than four minutes. Finally, outlier responses were identified using box and whisker plots. Two cases were eliminated as they repeatedly appeared as outliers in the box and whisker plots. Due to a disproportionately high number of responses from one rural school, Rural1, a randomly selected half of the cases from the school were included for analysis. All complete, engaged cases from the overrepresented school were labeled, "1, 2, 1, 2…" and all 1s were selected for inclusion. The final sample size was 280. Table 4.2 depicts the steps taken to determine the final sample.

Table 4.2

*Steps Taken to Determine Final Sample*

| Requirements for Inclusion | # Cases Included |
|---|---|
| Completed all proposed scale items | 383 |
| Engaged responses | 354 |
| Cases were not consistently outliers across proposed scale items | 352 |
| Following sub-sampling out of overrepresented rural school | 280 |

Nearly 100 students were excluded from the survey prior to the first scale item. In response to the first question, 40 students indicated they did not want to take the survey. Following the eligibility questions, 30 students were eliminated from the study because they had either attended their school for less than the required three months or they struggled to understand written English. The length of the survey visibly fatigued many students, especially those who were relatively new to the English language. Each proposed scale was broken into two pages to decrease the visual and mental strain on the respondents. Thus, there were six pages of scale items. Before completing the first page of scale items, 27 students stopped responding to the items, and 17 students stopped before completing the second page, which left

422 students that completed only the items intended to measure personal capacity building. Twelve students ended the survey before completing page 3, seven ended it before finishing page 4, eleven stopped before completing page 5, and nine dropped out before finishing the final page of scale items.

**Study Participant Descriptive Statistics**

Participants for this study were recruited by contacting principals and superintendents of various schools. The first schools that agreed to participate also suggested additional schools to contact. Thus, the recruitment strategy took a snowball sampling approach. This section summarizes the participant demographics of the 280 students who completed the survey and were included in the data analysis.

There was diverse representation on most demographic variables. Of note, nearly 44% of the sample consisted of non-native English speakers, about 31% of the students attend a rural school, and there was a relatively even spread of students across varying degrees of leadership experience. Non-native English speakers spoke a variety of languages. The most commonly spoken languages were Spanish (58), Bangla (9), and Chinese (9). Nearly three-fourths of the respondents identified as a race/ethnicity other than white. Students who receive mostly failing grades are likely underrepresented in the sample. Descriptive statistics for study respondents are shown in Table 4.3.

Table 4.3

*Descriptive Statistics for Study Respondent Demographics*

| Demographic | | Frequency | Percent |
|---|---|---|---|
| Year in school | 9th grade | 54 | 19.3% |
| | 10th grade | 67 | 23.9% |
| | 11th grade | 72 | 25.7% |
| | 12th grade | 83 | 29.6% |
| | Unknown | 4 | 1.4% |
| | Total | 280 | 100.0% |
| Hours worked per week | 0 | 186 | 66.4% |
| | 1-9 | 50 | 17.9% |
| | 9-18 | 20 | 7.1% |
| | 18+ | 20 | 7.1% |
| | Unknown | 4 | 1.4% |
| | Total | 280 | 100.0% |
| Native language | English | 156 | 55.7% |
| | Other languages | 122 | 43.6% |
| | Unknown | 2 | 0.7% |
| | Total | 280 | 100.0% |
| Race/Ethnicity | American Indian | 10 | 3.2% |
| | Asian/Pacific Islander | 38 | 13.6% |
| | Arabic | 6 | 2.1% |
| | Latina/Latino | 81 | 28.9% |
| | Black/African-American | 35 | 12.5% |
| | White | 86 | 30.7% |
| | Multiracial | 13 | 4.6% |
| | Other | 8 | 2.9% |
| | Unknown | 3 | 1.1% |
| | Total | 280 | 100.0% |
| Special Education | Yes | 37 | 13.2% |
| | No | 196 | 70.0% |
| | I don't know | 45 | 16.1% |
| | Unknown | 2 | 0.7% |
| | Total | 280 | 100.0% |
| Academic Performance | Mostly As and Bs | 176 | 62.9% |
| | Mostly Cs and Ds | 92 | 32.9% |

| | | | | |
|---|---|---|---|---|
| | Mostly Fs | | 7 | 2.5% |
| | Unknown | | 5 | 1.8% |
| | | Total | 280 | 100.0% |
| Leadership Experience | Many experiences | | 61 | 21.8% |
| | Few experiences | | 87 | 31.1% |
| | One experience | | 53 | 18.9% |
| | No experience | | 77 | 27.5% |
| | Unknown | | 2 | 0.7% |
| | | Total | 280 | 100.0% |
| Urbanicity | Urban | | 192 | 68.6% |
| | Rural | | 88 | 31.4% |
| | | Total | 280 | 100.0% |

Prior to quantitative data analysis, the data required further review to address missing values and recode responses to some demographic questions. As demographic questions were optional, missing responses were coded as "unknown." Demographic questions with alpha values were recoded to numeric values. Variables were properly categorized in SPSS as nominal, ordinal, or scale. Additional variables were recoded to facilitate comparative analysis between groups of participants. These recodes are discussed in detail in the results section for Research Question 3.

**Research Question 1**

Research Question 1 was broken into three parts: What factors emerge through factor analysis with items designed to measure the degree to which a school builds personal capacity for student leadership?; What factors emerge through factor analysis with items designed to measure the degree to which a school builds interpersonal capacity for student leadership?; and What factors emerge through factor analysis with items designed to measure the degree to which a school builds organizational capacity for student leadership? The process used to address these questions is described below.

**Descriptive statistics.** Descriptive statistics were run for each of the proposed scale items. To improve the interpretability of items, the variables were named with the first few letters of the proposed scale name, followed by the letter that preceded the item on the survey. For example, Pers_a refers to the first item in the list of items designed to measure personal capacity building, Inter_a refers to the first of the proposed interpersonal items, and Org_a refers to the first item in the list of proposed organizational items. Tables 4.4, 4.5, and 4.6 include the mean, standard deviation, and measures of skewness and kurtosis for each item. The survey responses were coded as 1 (*strongly disagree*), 2 (*disagree*), 3 (*somewhat disagree*), 4 (*somewhat agree*), 5 (*agree*), and 6 (*strongly agree*).

As a whole, the items designed for the proposed personal scale had the highest mean score of the three scales ($M = 4.66$). "In my school, I am taught to see things from many points of view" ($M = 4.91$), "At my school, I learn how to work with people of different cultures and backgrounds" ($M = 4.93$), and "At my school, I am asked to think about what I can do to improve my skills" ($M = 4.92$) were the items with the highest mean scores. The lowest mean scores for the proposed personal items were "In my classes, I am taught to name my feelings" ($M = 4.07$) and "At my school, I am asked to identify the strengths of others" ($M = 4.19$).

Table 4.4

*Descriptive Statistics for Proposed Personal Student Leadership Capacity Building Scale Items (n = 280)*

| Variable | Item | *M* | *SD* | Skewness | Kurtosis |
|---|---|---|---|---|---|
| Pers_a | In my classes, I am taught to name my feelings. | 4.07 | 1.338 | -.703 | -.167 |
| Pers_b | My teachers encourage me to ask "Why?" | 4.78 | 1.282 | -1.339 | 1.437 |
| Pers_c | In my classes, I learn to recognize the effects of my actions on others. | 4.69 | 1.177 | -1.589 | 2.767 |
| Pers_d | My teachers teach me to challenge usual ways of thinking. | 4.29 | 1.272 | -.950 | .337 |
| Pers_e | My teachers teach me to challenge usual ways of thinking. | 4.79 | 1.246 | -1.424 | 1.830 |
| Pers_f | In my school, I am taught to see things from many points of view. | 4.91 | 1.243 | -1.354 | 1.465 |
| Pers_g | At my school, I am taught to make sure all voices are heard. | 4.70 | 1.321 | -1.247 | 1.095 |
| Pers_h | When doing group work in class, I learn to appreciate the differences each person brings to the group. | 4.87 | 1.189 | -1.600 | 2.672 |
| Pers_i | During class discussions, I am taught to balance listening and speaking. | 4.82 | 1.138 | -1.277 | 1.770 |
| Pers_j | At my school, I learn how to work with people of different cultures and backgrounds. | 4.93 | 1.326 | -1.457 | 1.549 |
| Pers_k | My teachers explain ideas in many ways so all students can learn. | 4.71 | 1.287 | -1.188 | 1.040 |
| Pers_l | At my school, I am taught to see a difficult assignment as a chance to learn. | 4.73 | 1.165 | -1.189 | 1.423 |
| Pers_m | At my school, I am asked to identify the strengths of others. | 4.19 | 1.246 | -.689 | -.124 |
| Pers_n | I am taught how to create an image of my best self in class. | 4.53 | 1.203 | -.953 | .824 |
| Pers_o | I feel comfortable trying new things in my school. | 4.60 | 1.356 | -1.146 | .737 |
| Pers_p | At my school, I am taught to recognize times when I was at my best. | 4.61 | 1.196 | -1.029 | .876 |
| Pers_q | At my school, I am asked to think about what I can do to improve my skills. | 4.92 | 1.096 | -1.416 | 2.354 |

The overall mean score of the items designed to measure interpersonal capacity building ($M = 4.27$) fell in between the means of the items designed to measure personal ($M = 4.66$) and organizational ($M = 4.14$) capacity building. Of the proposed interpersonal items, the items with the highest mean scores were "In school, I learn from people who think differently than me" ($M = 4.65$) and "At my school, I am able to work with teachers to accomplish common goals" ($M = 4.66$). The proposed interpersonal items with the lowest mean scores were "If I think a school policy is unfair, I work with others to try to fix it" ($M = 3.85$) and "At my school, students and teachers work together to create lessons" ($M = 3.83$).

Table 4.5

*Descriptive Statistics for Proposed Interpersonal Student Leadership Capacity Building Scale Items (n = 280)*

| Variable | Item | *M* | *SD* | Skewness | Kurtosis |
|---|---|---|---|---|---|
| Inter_a | I often work with others to gather information about important school issues. | 4.23 | 1.390 | -.762 | -.231 |
| Inter_b | Groups at my school talk about how much progress they have made. | 4.05 | 1.327 | -.574 | -.445 |
| Inter_c | If I think a school policy is unfair, I work with others to try to fix it. | 3.85 | 1.491 | -.492 | -.777 |
| Inter_d | In group discussions, I see both students and teachers respectfully listening to critical feedback. | 4.54 | 1.362 | -.992 | .409 |
| Inter_e | At school, when there is a conflict, we work through it respectfully. | 4.21 | 1.387 | -.773 | -.087 |
| Inter_f | In school, I learn from people who think differently than me. | 4.65 | 1.269 | -1.318 | 1.554 |
| Inter_g | Groups at my school only make decisions when every group member can live with it. | 4.06 | 1.345 | -.665 | -.258 |
| Inter_h | Groups at my school respect the voices of all members. | 4.34 | 1.485 | -.856 | -.155 |
| Inter_i | In my school, both teachers and students take time to build relationships with me. | 4.48 | 1.381 | -.865 | -.030 |
| Inter_j | At my school, I am able to work with teachers to accomplish common goals. | 4.66 | 1.265 | -1.189 | 1.311 |
| Inter_k | At my school, students and teachers work together to create lessons. | 3.83 | 1.560 | -.397 | -.872 |
| Inter_l | If a school leader disagrees with my idea, we listen to and learn from each other. | 4.20 | 1.419 | -.805 | -.132 |
| Inter_m | I usually feel supported by both students and teachers in my school. | 4.36 | 1.372 | -.905 | .087 |
| Inter_n | At my school, students and teachers give more praise than criticism. | 4.19 | 1.387 | -.806 | -.037 |
| Inter_o | At school, students and teachers often celebrate accomplishments. | 4.35 | 1.469 | -.929 | -.038 |

The overall mean score for the items designed to measure organizational capacity building was the lowest of the three scales ($M = 4.14$). Within the proposed organizational items, the highest item scores were "I know students who are on school committees with other students and teachers" ($M = 4.43$) and "At my school, every student has a mentor with whom they have a positive relationship" ($M = 4.36$). There were several items designed to measure organizational capacity building with means below 4. The lowest items were "Students help create discipline policies for the school" ($M = 3.77$) and "At my school, students are sometimes paid for the work they do to help the school" ($M = 3.33$). Although not quite as low, mean scores for the items "After a new rule or a new schedule is made, students and teachers are asked to share their reactions to the change" ($M = 3.87$) and "Before making a school decision, leaders ask what all the students think about it" ($M = 3.88$) were also below 4.

Table 4.6

*Descriptive Statistics for Proposed Organizational Student Leadership Capacity Building Scale Items (n = 280)*

| Variable | Item | *M* | *SD* | Skewness | Kurtosis |
|---|---|---|---|---|---|
| Org_a | Students are often asked what they think the school is doing well and what the school could do better. | 4.23 | 1.418 | -.812 | -.132 |
| Org_b | At my school, both students and teachers can ask questions and give input before school decisions are made. | 4.13 | 1.395 | -.808 | -.179 |
| Org_c | After a new rule or a new schedule is made, students and teachers are asked to share their reactions to the change. | 3.87 | 1.508 | -.500 | -.805 |
| Org_d | In my school, there is a clear process to share information between students and teachers. | 4.23 | 1.444 | -.852 | -.153 |
| Org_e | Times and locations of school committee meetings are clearly communicated. | 4.33 | 1.320 | -1.001 | .421 |
| Org_f | Before making a school decision, leaders ask what all the students think about it. | 3.88 | 1.557 | -.582 | -.760 |
| Org_g | Students in my school are often asked to be on committees that try to improve student learning. | 4.26 | 1.347 | -.884 | .246 |
| Org_h | Students are invited to participate in school decisions that affect how learning happens. | 4.06 | 1.438 | -.769 | -.292 |
| Org_i | At my school, teachers believe they can learn from students. | 4.36 | 1.345 | -.892 | .179 |
| Org_j | Students help create discipline policies for the school. | 3.77 | 1.582 | -.472 | -.971 |
| Org_k | I know students who are on school committees with other students and teachers. | 4.43 | 1.364 | -1.023 | .372 |
| Org_l | At my school, students often have opportunities to talk about school issues in small groups. | 4.30 | 1.369 | -.859 | -.042 |
| Org_m | In my school, students and teachers have regular opportunities to improve their leadership skills. | 4.34 | 1.286 | -.866 | .185 |
| Org_n | Students and teachers at my school attend workshops or trainings together. | 3.94 | 1.530 | -.514 | -.872 |

| | | | | | |
|---|---|---|---|---|---|
| Org_o | At my school, every student has a mentor with whom they have a positive relationship. | 4.36 | 1.433 | -.889 | -.068 |
| Org_p | Student schedules include time for mentoring. | 4.08 | 1.649 | -.721 | -.745 |
| Org_q | Student leaders at my school are formally recognized for the work they do to help the school. | 4.25 | 1.385 | -.855 | -.022 |
| Org_r | My school often tries new ways of doing things. | 4.33 | 1.390 | -1.000 | .298 |
| Org_s | At my school, students are given academic credit for after school leadership activities. | 4.23 | 1.463 | -.880 | -.123 |
| Org_t | At my school, students are sometimes paid for the work they do to help the school. | 3.33 | 1.775 | -.052 | -1.477 |

**Factorability.** Measures of skewness and kurtosis were reviewed to determine if items needed to be eliminated. Measures of skewness or kurtosis larger than ±3.0 indicate a lack of normal distribution, and scale development scholars recommend items with high skewness or kurtosis are deleted (George & Mallery, 2014). No items were removed, as skewness and kurtosis values were below the suggested thresholds.

Next, bivariate correlations were calculated to ensure all items were correlated with at least one other item at ≥ .30, as this indicates the items share at least 9% (.3 x .3) of their variance. All 52 items were correlated with at least one other item at .30 or higher, thus, no items were removed due to a lack of shared variance.

Prior to the exploratory factor analysis, the Kaiser-Meyer-Olkin (KMO) test was run to determine if the sample was appropriate for factor analysis. Generally, a sample size of 300 or greater is considered adequate (e.g., Nunnally, 1978), but KMO measures confirmed each of the samples for the three proposed scales was of sufficient size for factor analysis. KMO scores should be above .60 and are ideally as close to 1 as possible (Worthington & Whittaker, 2006).

The scores were .946 for the proposed personal scale, .952 for the proposed interpersonal scale, and .967 for the proposed organizational scale.

**Exploratory factor analysis.** Exploratory factor analysis was conducted with the items designed to measure the concepts for each of the three proposed scales. Exploratory factor analysis determines the number of factors for each construct and identifies the items and loadings for each component. The exploratory factor analysis was run using PCA, with varimax rotation. Varimax rotation was employed, as it is an orthogonal rotation, which presumes the factors are not correlated and provides for ease of factor interpretation. For the PCA runs for each of the three constructs—personal, interpersonal, and organizational, the number of factors above the elbow of the scree plot were retained. Items with loadings below .4 were deleted as were items that loaded onto more than one factor at .4 or higher. The scale items reflect all three theorized leadership competencies. Student voice mechanisms were also embedded in many items across the three proposed scales. Leadership competencies and mechanisms are discussed in detail under Research Question 4.

***Personal scale.*** Personal scale items reflected the leadership competencies of critical awareness (Pers_a through Pers_f), inclusivity, (Pers_g through Pers_k) and positivity (Pers_l through Pers_q). The first round of PCA results for the personal student leadership capacity building scale indicated there were two components. Items that cross-loaded on both components (Pers_a, Pers_e, Pers_f, Pers_g, and Pers_h) were eliminated. The results of the second round of PCA showed that there were two factors. Pers_n cross-loaded on both components, but the lower loading was only .404 while the higher loading was more than .200 higher. Therefore, the Pers_n item was retained. The eigenvalue for the second component was at the elbow and equal to 1.015. Thus, the two-factor solution was used. This two-component

solution accounted for 60.8% of the variance. Component 1 had 9 items and was labeled InclusivePositivity, as it includes items representing these leadership competencies. Component 2 had 3 items and was named CriticalAwareness, as its items reflect this leadership competency. Table 4.7 shows the item loadings for the Personal Student Leadership Capacity Building Scale.

Table 4.7

*Factor Loadings for the Personal Student Leadership Capacity Building Scale Based on PCA*

| Variable | Item | Component Loadings | |
|---|---|---|---|
| | | Inclusive Positivity | Critical Awareness |
| Pers_i | During class discussions, I am taught to balance listening and speaking. | .731 | |
| Pers_j | At my school, I learn how to work with people of different cultures and backgrounds. | .700 | |
| Pers_k | My teachers explain ideas in many ways so all students can learn. | .801 | |
| Pers_l | At my school, I am taught to see a difficult assignment as a chance to learn. | .809 | |
| Pers_m | At my school, I am asked to identify the strengths of others. | .733 | |
| Pers_n | I am taught how to create an image of my best self in class. | .644 | .404 |
| Pers_o | I feel comfortable trying new things in my school. | .672 | |
| Pers_p | At my school, I am taught to recognize times when I was at my best. | .733 | |
| Pers_q | At my school, I am asked to think about what I can do to improve my skills. | .646 | |
| Pers_b | My teachers encourage me to ask “Why?” | | .667 |
| Pers_c | In my classes, I learn to recognize the effects of my actions on others. | | .759 |
| Pers_d | My teachers teach me to challenge usual ways of thinking. | | .800 |

***Interpersonal scale.*** Interpersonal scale items reflected the leadership competencies of critical awareness (Inter_a through Inter_d), inclusivity (Inter_e through Inter_k), and positivity (Inter_l through Inter_o). The first run of PCA with the proposed interpersonal scale items indicated all items loaded onto one component with an eigenvalue of 8.868. Thus, all 15 items

were retained. The one-component solution accounted for 59.1% of the variance. Table 4.8 shows the item loadings for the Interpersonal Student Leadership Capacity Building Scale.

Table 4.8

*Factor Loadings for the Interpersonal Student Leadership Capacity Building Scale Based on PCA*

| Variable | Item | Component Loadings |
|---|---|---|
| Inter_a | I often work with others to gather information about important school issues. | .722 |
| Inter_b | Groups at my school talk about how much progress they have made. | .762 |
| Inter_c | If I think a school policy is unfair, I work with others to try to fix it. | .647 |
| Inter_d | In group discussions, I see both students and teachers respectfully listening to critical feedback. | .773 |
| Inter_e | At school, when there is a conflict, we work through it respectfully. | .823 |
| Inter_f | In school, I learn from people who think differently than me. | .744 |
| Inter_g | Groups at my school only make decisions when every group member can live with it. | .781 |
| Inter_h | Groups at my school respect the voices of all members. | .786 |
| Inter_i | In my school, both teachers and students take time to build relationships with me. | .806 |
| Inter_j | At my school, I am able to work with teachers to accomplish common goals. | .765 |
| Inter_k | At my school, students and teachers work together to create lessons. | .722 |
| Inter_l | If a school leader disagrees with my idea, we listen to and learn from each other. | .829 |
| Inter_m | I usually feel supported by both students and teachers in my school. | .832 |
| Inter_n | At my school, students and teachers give more praise than criticism. | .762 |
| Inter_o | At school, students and teachers often celebrate accomplishments. | .757 |

***Organizational scale.*** Organizational scale items reflected the leadership competencies of critical awareness (Org_a through Org_c), inclusivity (Org_d through Org_l), and positivity (Org_m through Org_t). The first run of PCA with the proposed organizational scale items indicated all items loaded onto one component with an eigenvalue of 12.303. Thus, all 20 items were retained. The one-component solution accounted for 61.5% of the variance. Table 4.9 shows the item loadings for the Organizational Student Leadership Capacity Building Scale.

Table 4.9

*Factor Loadings for the Organizational Student Leadership Capacity Building Scale Based on PCA*

| Variable | Item | Component Loadings |
|---|---|---|
| Org_a | Students are often asked what they think the school is doing well and what the school could do better. | .797 |
| Org_b | At my school, both students and teachers can ask questions and give input before school decisions are made. | .845 |
| Org_c | After a new rule or a new schedule is made, students and teachers are asked to share their reactions to the change. | .796 |
| Org_d | In my school, there is a clear process to share information between students and teachers. | .844 |
| Org_e | Times and locations of school committee meetings are clearly communicated. | .709 |
| Org_f | Before making a school decision, leaders ask what all the students think about it. | .817 |
| Org_g | Students in my school are often asked to be on committees that try to improve student learning. | .792 |
| Org_h | Students are invited to participate in school decisions that affect how learning happens. | .821 |
| Org_i | At my school, teachers believe they can learn from students. | .780 |
| Org_j | Students help create discipline policies for the school. | .819 |
| Org_k | I know students who are on school committees with other students and teachers. | .723 |
| Org_l | At my school, students often have opportunities to talk about school issues in small groups. | .815 |
| Org_m | In my school, students and teachers have regular opportunities to improve their leadership skills. | .802 |
| Org_n | Students and teachers at my school attend workshops or trainings together. | .794 |
| Org_o | At my school, every student has a mentor with whom they have a positive relationship. | .739 |
| Org_p | Student schedules include time for mentoring. | .761 |
| Org_q | Student leaders at my school are formally recognized for the work they do to help the school. | .802 |
| Org_r | My school often tries new ways of doing things. | .805 |
| Org_s | At my school, students are given academic credit for after school leadership activities. | .739 |
| Org_t | At my school, students are sometimes paid for the work they do to help the school. | .658 |

**Reliability statistics.** Following PCA, reliability statistics were run to determine if deleting any items would improve the reliability of the three scales. On the Personal Student Leadership Capacity Building Scale, Cronbach's alpha was .836 for the InclusivePositivity factor and .708 for the CriticalAwarenes factor. Cronbach's alpha was .950 for the Interpersonal Student Leadership Capacity Building Scale, and .966 for the Organizational Student Leadership Capacity Building Scale. Reliability statistics showed that reliability would not improve if any of the items were deleted. Therefore, all items were retained.

**Research Question 2**

Research Question 2 asked: What correlations exist between the three scales? To address this question and further validate the factor models identified through PCA, confirmatory factor analysis was conducted using AMOS.

**Factor score correlations.** Prior to moving on to the confirmatory factor analyses, factor scores were computed in SPSS. Bivariate correlations were run using these factor scores. Correlations are displayed in Table 4.10. The factor score for Personal_InclusivePositivity component was very strongly correlated with the Interpersonal Student Leadership Capacity Building Scale, $r(278) = .818$, $p = .01$. The Organizational Student Leadership Capacity Building Scale was significantly and strongly correlated with the Personal_InclusivePositivity component, $r(278) = .719$, $p = .01$ and with the Interpersonal Student Leadership Capacity Building Scale, $r(278) = .868$, $p = .01$. The high correlations between scales suggest the items, originally conceptualized as three separate constructs, may make more sense as part of one overarching construct and one general scale for building student leadership capacity. The lack of correlation between Personal_InclusivePositivity and Personal_CriticalAwareness was expected as a result of PCA with varimax rotation. The low negative correlation between the

Personal_CriticalAwareness and Organizational factors was unexpected. Perhaps, students who are equipped with critical awareness skills are more likely to be critical of their school's leadership opportunities.

Table 4.10

*Factor Correlations Based on PCA Derived Factor Scores for the Personal, Interpersonal, and Organizational Student Leadership Capacity Building Scales*

| | Personal_Inclusive Positivity | Personal_Critical Awareness | Interpersonal | Organizational |
|---|---|---|---|---|
| Personal_Inclusive Positivity | 1.000 | | | |
| Personal_Critical Awareness | .000 | 1.000 | | |
| Interpersonal | .818** | -.097 | 1.000 | |
| Organizational | .719** | -.167** | .868** | 1.000 |

*Note.* ** $p < .01$ level (2-tailed).

**Confirmatory factor analysis.** CFA is a process used to confirm the fit of the model proposed during the PCA. The two factors with 12 items in the Personal Student Leadership Capacity Building Scale were entered into an AMOS graphic to run CFA. No items were removed through the PCA process from the Interpersonal Student Leadership Capacity Building Scale or Organizational Student Leadership Capacity Building Scale, so the original items, 15 and 20 respectively, were entered into two additional models in AMOS.

***Goodness of fit.*** To assess the model fit for each of the three scales, the following goodness of fit measures were examined:

- Chi-square divided by degrees of freedoms (CMIN/DF) was used to evaluate absolute fit. This value should be < 3 (Hu & Bentler, 1999).
- Root mean square error of approximation (RMSEA) was used for parsimony correction. This value should be < .05 (Hu & Bentler, 1999).

- Comparative fit index (CFI) was used to determine comparative or incremental fit. This value should be > .95 (Hu & Bentler, 1999).

In order to determine which items should be deleted to improve the overall model fit, modification indices and standardized residual covariances were reviewed for large values. While there are no specific rules that determine cut-offs for these values, items that were reported as having modification indices over 15 or standardized residual covariances above 1 were considered for deletion. Modification indices refer to the relationship between the errors of items within the same factor. High modification indices indicate an item can be deleted or covaried, as this statistic indicates the model would improve if designated items were not constrained. Items with high standardized residual covariances are candidates for deletion. You cannot covary them, as they refer to items, not errors (Gaskin, 2016).

***Personal student leadership capacity building scale.*** The initial two-factor model for the Personal Student Leadership Capacity Building Scale, identified through PCA, yielded goodness of fit scores that were not acceptable. The model was improved in subsequent rounds by deleting items with modification indices over 15 or standardized residual covariances above 1. Goodness of fit scores and consequent deletions after each round of CFA are in Table 4.11.

Table 4.11

*CFA Model Fit Scores and Deletions for the Personal Student Leadership Capacity Building Scale Based on Modification Indices (MI) and Standardized Residual Covariances (SRC)*

| Round | CMIN/DF | CFI | RMSEA | Item(s) deleted and rationale |
|---|---|---|---|---|
| 1 | 3.087 | .936 | .086 | Pers_n due to high MI |
| 2 | 2.731 | .950 | .079 | Pers_i due to high SRC |
| 3 | 2.508 | .960 | .074 | Pers_l due to high SRC |
| 4 | 2.093 | .972 | .063 | Pers_j due to high SRC |
| 5 | 1.613 | .987 | .047 | None |

The final run resulted in a two-factor scale. The first factor, named CriticalAwareness, had 3 items with loadings between .60 and .74, and the second factor, named InclusivePositivity, had 5 items, with loadings between .68 and .82. This model had a CMIN/DF of 1.613, CFI of .987, and RMSEA of .047. The final personal scale model with item loadings and correlations between factors is shown in Figure 4.1. The factors have a .78 correlation.

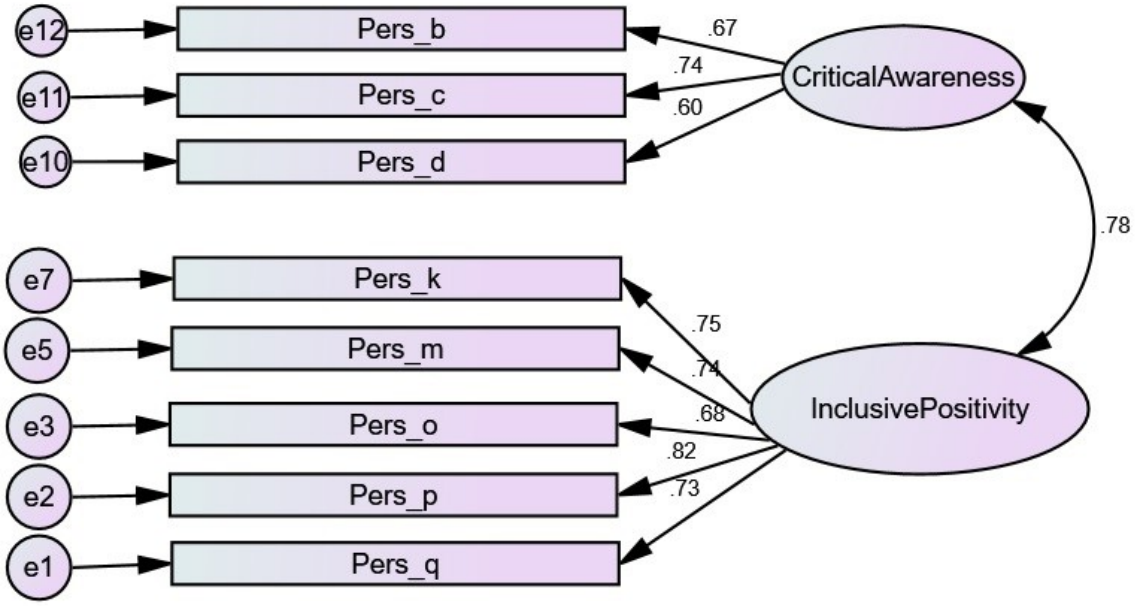


*Figure 4.1.* Personal Student Leadership Capacity Building Scale Model Resulting From CFA. Item loadings and correlations between factors are shown. Range is 0-1. Full item statements are listed in Table 4.7.

***Interpersonal student leadership capacity building scale.*** The initial model for the Interpersonal Student Leadership Capacity Building Scale, identified by the PCA results, yielded goodness of fit scores that were not acceptable. The model was improved in subsequent rounds by deleting items with modification indices over 15 or standardized residual covariances above 1. The goodness of fit scores and consequent deletions after each round of CFA is listed in Table 4.12.

Table 4.12

*CFA Model Fit Scores and Deletions for the Interpersonal Student Leadership Capacity Building Scale Based on Modification Indices (MI) and Standardized Residual Covariances (SRC)*

| Round | CMIN/DF | CFI | RMSEA | Item(s) deleted and rationale |
|---|---|---|---|---|
| 1 | 3.761 | .914 | .099 | Inter_i due to high M1 |
| 2 | 3.495 | .926 | .095 | Inter_f due to high MI |
| 3 | 3.249 | .938 | .090 | Inter_c due to high SRC |
| 4 | 2.841 | .955 | .081 | Inter_d due to high MI |
| 5 | 2.535 | .965 | .074 | Inter_b due to high SRC |
| 6 | 2.432 | .971 | .072 | Inter_m due to MI |
| 7 | 1.853 | .984 | .055 | Inter_o due to SRC |
| 8 | 1.767 | .988 | .052 | None |

The final CFA run resulted in a one-factor scale with 8 items, with loadings between .69 and .80. This model had a CMIN/DF of 1.767, CFI of .988, and RMSEA of .052. Thus, model fit was good. The final Interpersonal Student Leadership Capacity Building Scale model with item loadings is shown in Figure 4.2.

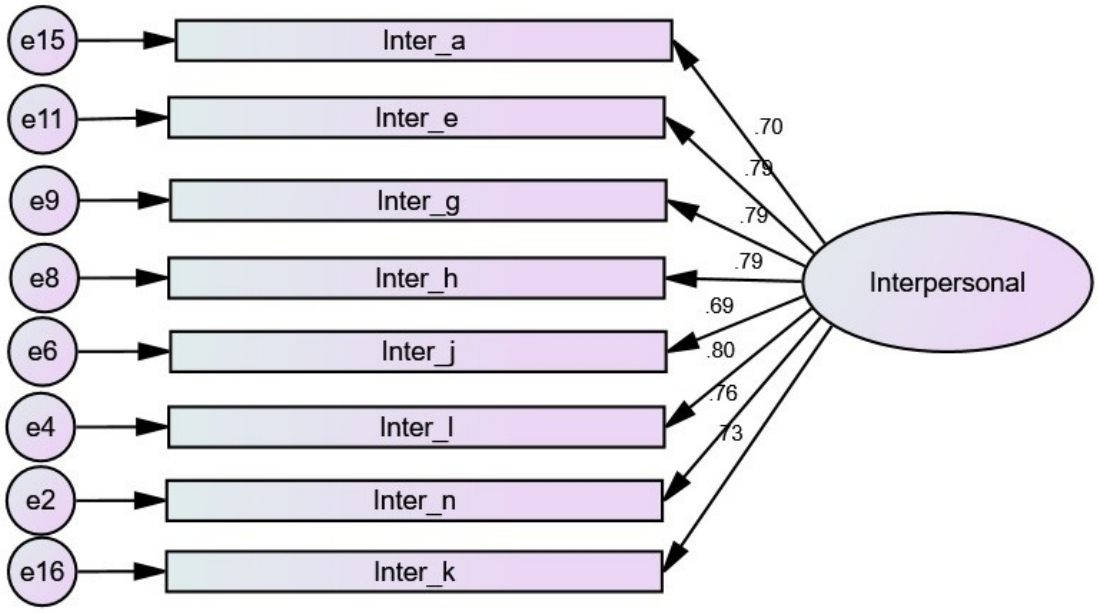


*Figure 4.2.* Interpersonal Student Leadership Capacity Building Scale Model Resulting From CFA. Item loadings are shown. Range is 0-1. Full item statements are listed in Table 4.8.

***Organizational student leadership capacity building scale.*** The initial model for the Organizational Student Leadership Capacity Building Scale, identified by the PCA results,

yielded goodness of fit scores that were not acceptable. The model was improved in subsequent rounds by deleting items with modification indices over 15 or standardized residual covariances above 1. Goodness of fit scores and deletions after each round of CFA are listed in Table 4.13.

Table 4.13

*CFA Model Fit Scores and Deletions for the Organizational Student Leadership Capacity Building Scale Based on Modification Indices (MI) and Standardized Residual Covariances (SRC)*

| Round | CMIN/DF | CFI | RMSEA | Item(s) deleted or covaried and rationale |
|---|---|---|---|---|
| 1 | 3.209 | .917 | .089 | Delete Org_o due to high MI |
| 2 | 2.978 | .930 | .084 | Covary Org_l and Org_m due to high MI |
| 3 | 2.821 | .936 | .081 | Covary Org_q and Org_s due to high MI |
| 4 | 2.727 | .939 | .079 | Delete Org_n due to high MI |
| 5 | 2.665 | .944 | .077 | Delete Org_t due to high SRC |
| 6 | 2.578 | .952 | .075 | Delete Org_f due to high MI |
| 7 | 2.388 | .959 | .071 | Delete Org_i due to high MI |
| 8 | 2.241 | .966 | .067 | Delete Org_g due to high SRC |
| 9 | 2.094 | .972 | .063 | Delete Org_r due to high SRC |
| 10 | 2.041 | .975 | .061 | Delete Ojrg_j due to high SRC |
| 11 | 1.504 | .989 | .043 | None |

The final run resulted in a one-factor scale with 12 items, with loadings between .68 and .86. This model had a CMIN/DF of 1.504, CFI of .989, and RMSEA of .043. Thus, model fit was good. The final organizational scale model with item loadings is shown in Figure 4.3.

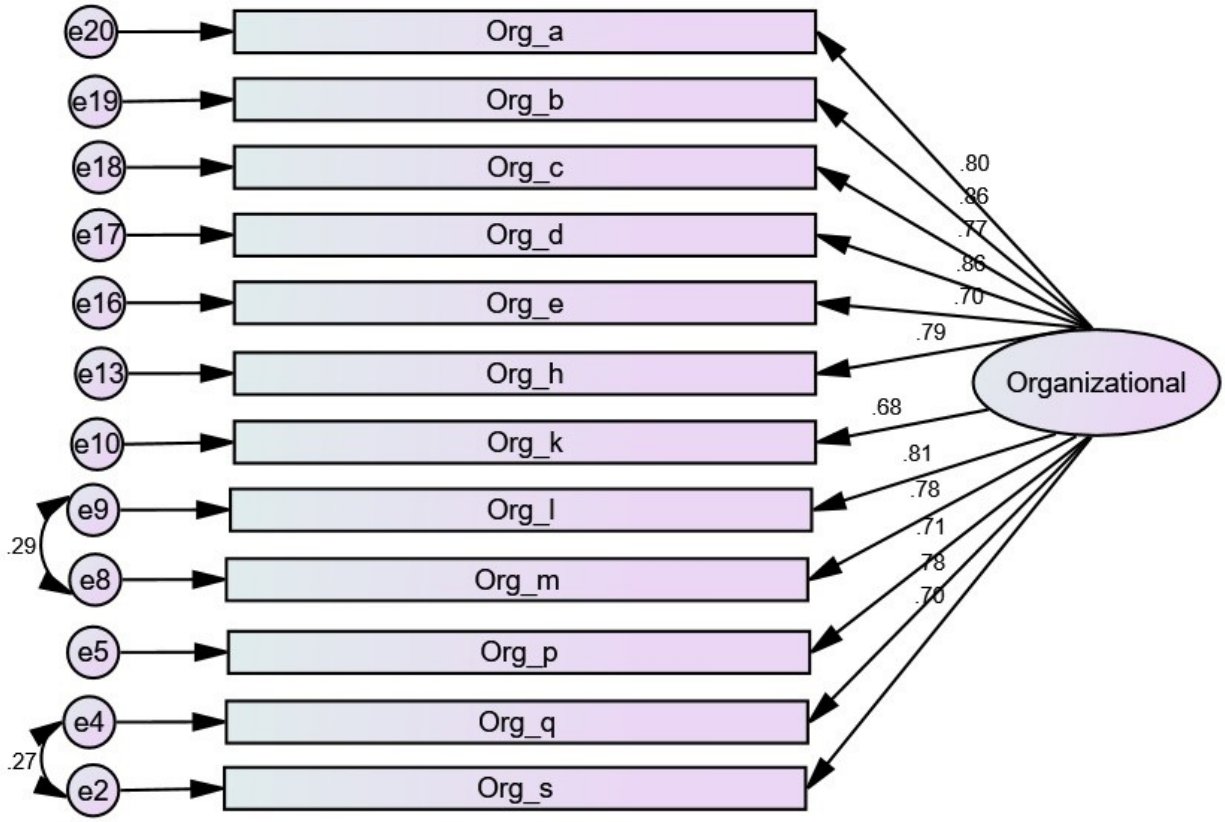


*Figure 4.3.* Organizational Student Leadership Capacity Building Scale Model Resulting From CFA. Item loadings are shown. Range is 0-1. Full item statements are listed in Table 4.9.

***Overall student leadership capacity building model.*** After running CFA for each separate scale in AMOS, all three individual scales as modified from the original PCA results were placed in a one new model in AMOS to further check the correlations between the three scales. Highly correlated scales imply the potential of a uni-dimensional scale, which is consistent with an overarching construct of building capacity for student leadership. The results of this CFA indicated the scales were highly correlated with one another. The InclusivePositivity factor of the Personal Student Leadership Capacity Building Scale and the Interpersonal Student Leadership Capacity Building Scale had a correlation of .88. The Interpersonal Student Leadership Capacity Building Scale and the Organizational Student Leadership Capacity Building Scale had a .93 correlation. T. Brown (2015) noted that when a

CFA indicates factors are highly correlated, the model may be reconfigured so that all items load on one factor (p. 140).

Considering T. Brown's suggestion, factor analysis was run again using a different approach. PCA was run for all 52 initial personal, interpersonal, and organizational items. It employed the same process as used with the individual construct scales, PCA with varimax rotation, and deleting items with loadings below .4 or cross-loadings above .4. More than one factor emerged, covering all three individual dimensions and retaining a full range of mechanisms and leadership competency items.

***PCA results for all items.*** Prior to running PCA with all of the original 52 items in one factor analysis, KMO was checked to ensure factorability. KMO = .965, thus PCA proceeded. The first round of results for the proposed Overall Student Leadership Capacity Building Scale indicated there were six components. Item Pers_a was eliminated, as it did not load on any factor at .4 or above. Items that cross-loaded on more than one component above .4 (Pers_h, Pers_k, Pers_l, Pers_m, Inter_a, Inter_b, Inter_c, Inter_e, Inter_f, Inter_l, Inter_m, Inter_n, Inter_o) were eliminated. The results of the second round of PCA indicated there were four components in the scale. Items that were deleted due to cross-loadings were: Pers_i, Pers_j, Pers_p, Inter_h, and Org_o. The third round of results broke into three components. Items Pers_n, Pers_qand Org_i were deleted as they cross-loaded on more than one component. The fourth round maintained a three-component model, but items Pers_g, Org_g, Org_l, and Org_p cross-loaded with multiple components, and were deleted. The three-factor model was still present in the fifth round, and Pers_o was the only deletion as it did not load onto any factor at => .4. The sixth and final run produced a three-factor model with 25 items. Items Org_a, Org_d, and Org_m cross-loaded on Component 1 and Component 3. However, these items were

retained as the higher loading was over .2 larger than the lower loadings (Worthington & Whittaker, 2006), which were only just over the .4 threshold. The scree plot indicated there should be three factors, and the eigenvalues for the three components were =>1.0. The three components accounted for 64.4% of the variance. Table 4.14 shows the item loadings for the Building Leadership Capacity Scale.

Table 4.14

*Factor Loadings for the Overall Student Leadership Capacity Building Scale Based on PCA With All Original Items*

| Variable | Item | Component Loadings | | |
|---|---|---|---|---|
| | | Organizational | Personal Critical Awareness | Radical Collegiality |
| Inter_g | Groups at my school only make decisions when every group member can live with it. | .546 | | |
| Inter_k | At my school, students and teachers work together to create lessons. | .708 | | |
| Org_a | Students are often asked what they think the school is doing well and what the school could do better. | .655 | | .415 |
| Org_b | At my school, both students and teachers can ask questions and give input before school decisions are made. | .758 | | |
| Org_c | After a new rule or a new schedule is made, students and teachers are asked to share their reactions to the change. | .767 | | |
| Org_d | In my school, there is a clear process to share information between students and teachers. | .682 | | .417 |
| Org_e | Times and locations of school committee meetings are clearly communicated. | .597 | | |
| Org_f | Before making a school decision, leaders ask what all the students think about it. | .790 | | |

| | | | | | |
|---|---|---|---|---|---|
| Org_h | Students are invited to participate in school decisions that affect how learning happens. | .796 | | | |
| Org_j | Students help create discipline policies for the school. | .801 | | | |
| Org_k | I know students who are on school committees with other students and teachers. | .582 | | | |
| Org_m | In my school, students and teachers have regular opportunities to improve their leadership skills. | .644 | | | .424 |
| Org_n | Students and teachers at my school attend workshops or trainings together. | .816 | | | |
| Org_q | Student leaders at my school are formally recognized for the work they do to help the school. | .705 | | | |
| Org_r | My school often tries new ways of doing things. | .646 | | | |
| Org_s | At my school, students are given academic credit for after school leadership activities. | .698 | | | |
| Org_t | At my school, students are sometimes paid for the work they do to help the school. | .793 | | | |
| Pers_b | My teachers encourage me to ask "Why?" | | .750 | | |
| Pers_c | In my classes, I learn to recognize the effects of my actions on others. | | .739 | | |
| Pers_d | My teachers teach me to challenge usual ways of thinking. | | .705 | | |
| Pers_e | My teachers teach me to challenge usual ways of thinking. | | .724 | | |
| Pers_f | In my school, I am taught to see things from many points of view. | | .728 | | |
| Inter_d | In group discussions, I see both students and teachers respectfully listening to critical feedback. | | | | .633 |
| Inter_i | In my school, both teachers and students take time to build relationships with me. | | | | .776 |
| Inter_j | At my school, I am able to work with teachers to accomplish common goals. | | | | .752 |

Reliability analysis indicated all three components had high reliability. Component 1, named Organizational, (Cronbach's alpha = .960); Component 2, named PersonalCriticalAwareness, (Cronbach's alpha = .830); and Component 3, named RadicalCollegiality, (Cronbach's alpha = .844) all had high reliability scores. All items were retained for CFA, as for all three components deleting items would not increase reliability.

***CFA results for all items.*** The initial model for the overall scale, identified by the sixth round of PCA results, yielded goodness of fit scores that were not acceptable. The model was improved in subsequent rounds by deleting items with modification indices over 15 or standardized residual covariances above 1.5. The goodness of fit scores and consequent deletions after each round of CFA is listed in Table 4.15. The final run resulted in a three-factor scale with 18 items. The component, RadicalCollegiality, has two items, with loadings between .85 and .86, PersonalCriticalAwareness has three items, with loadings between .58 and .75, and Organizational has 13 items, with loadings between .67 and .86.

Table 4.15

*CFA Model Fit Scores and Deletions for the Overall Student Leadership Capacity Building Scale Based on Modification Indices (MI) and Standardized Residual Covariances (SRC)*

| Round | CMIN/DF | CFI | RMSEA | Item(s) deleted and rationale |
|---|---|---|---|---|
| 1 | 2.330 | .926 | .069 | Pers_f due to MI |
| 2 | 2.244 | .934 | .067 | Org_n due to MI |
| 3 | 2.134 | .941 | .064 | Org_s due to MI |
| 4 | 2.081 | .946 | .062 | Inter_d due to SRC |
| 5 | 1.997 | .952 | .060 | Pers_c due to SRC |
| 6 | 1.953 | .957 | .058 | Org_t due to SRC |
| 7 | 1.864 | .964 | .056 | Org_j due to SRC |
| 8 | 1.616 | .975 | .047 | None |

The final Overall Student Leadership Capacity Building Scale model with item loadings and correlations between factors is shown in Figure 4.4. While the components are correlated

with one another, the correlations are not greater than .80 (Gaskin, 2016). RadicalCollegiality and Organizational have a correlation of .74. PersonalCriticalAwareness is correlated with both RadicalCollegiality and Organizational at .60.

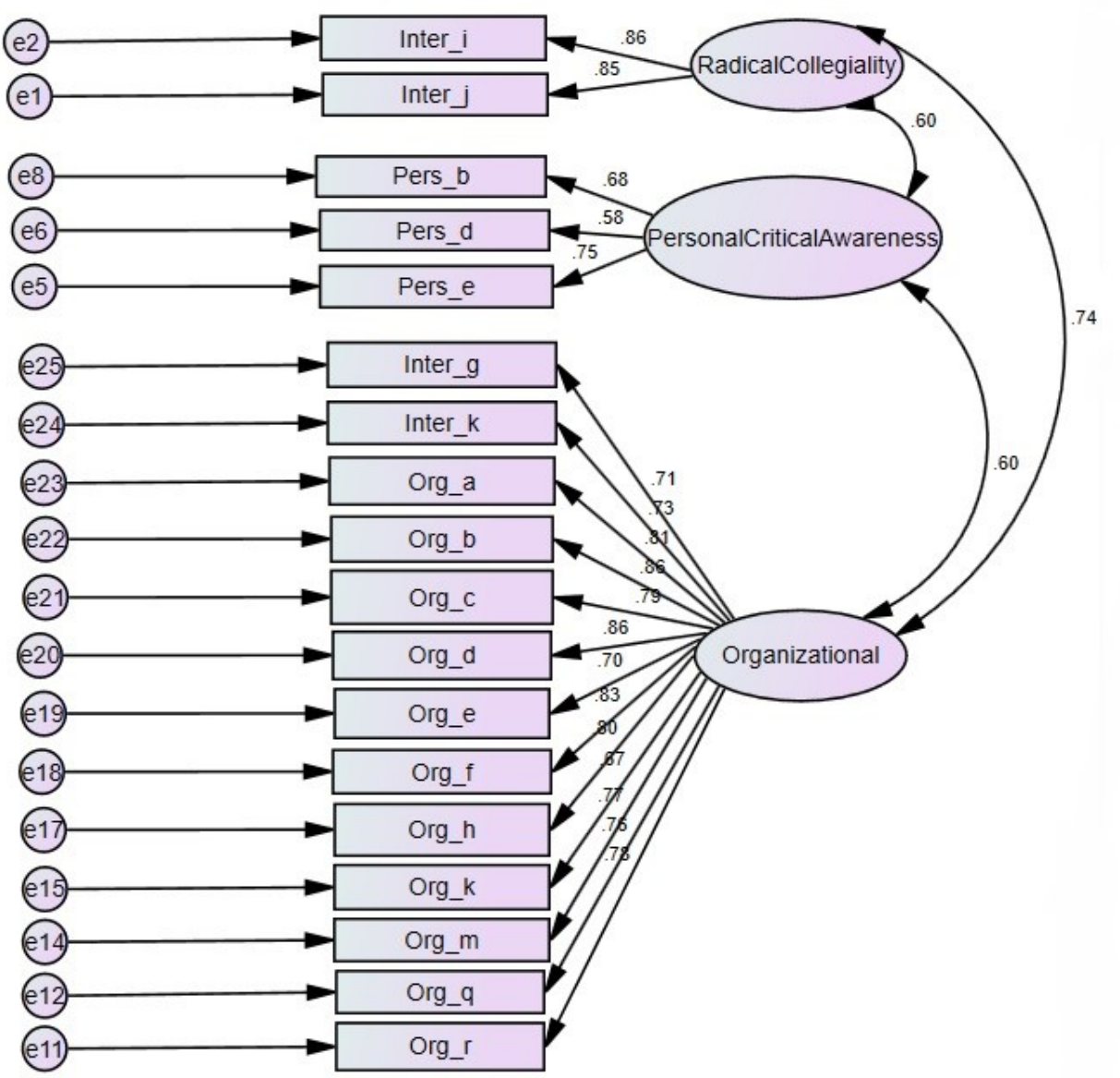


*Figure 4.4.* Overall Student Leadership Capacity Building Scale Model Resulting From CFA. Correlations between factors and item loadings are shown. Range is 0-1. Full item statements are listed in Tables 4.7, 4.8, and 4.9.

***Validity and reliability.*** After ensuring good model fit for all of the factor validated scales, the individual components were evaluated for validity and reliability. To determine if the

models were valid and reliable, typically CR, AVE, and MSV are used. CR should be > .7, AVE, which determines convergent validity by measuring how well the items in a given factor correlate with each other, should be > .5, and MSV, which assesses discriminant validity, should be less than the value of the AVE (Hu & Bentler, 1999). For the single component interpersonal and organizational scales, MSV is not applicable, as the purpose of the MSV score is to ensure items within different factors/components of the same scale are not too highly correlated with one another. MSV is reviewed for the multi-factor scales.

For the two-factor Personal Student Leadership Capacity Building Scale, the InclusivePositivity component yielded the following factor scores: CR = .860, AVE = .607, and MSV = .866. The CriticalAwareness factor scores were: CR = .711, AVE = .453, and MSV = .607. As the two factors in this model are correlated at .78, it makes sense the discriminant validity is not as strong as recommended.

Results for the Interpersonal Student Leadership Capacity Building Scale were: CR = .906, AVE=.581. Results for the Organizational Student Leadership Capacity Building Scale were: CR = .947, AVE = .598. As both of these models had only one latent variable, MSV = 0 and discriminant validity could not be determined through this analysis. The Interpersonal Student Leadership Capacity Building Scale and the Organizational Student Leadership Capacity Building Scale all have strong convergent validity and reliability.

For the three-factor Overall Student Leadership Capacity Scale, results are shown in Table 4.16. The CR scores for all three factors are acceptable. While the AVE score for PersonalCriticalAwareness is a bit low, Malhotra and Dash (2011) argue AVE may be too strict, and CR is an acceptable measure of the scale's reliability. In order to improve the AVE score for

PersonalCriticalAwareness, an item would have to be removed, which in turn would have reduced the model fit scores and made the CR for PersonalCriticalAwareness unacceptably low.

Table 4.16

*Validity and Reliability Measures for the Overall Student Leadership Capacity Scale*

| Factor | CR | AVE | MSV |
|---|---|---|---|
| RadicalCollegiality | .844 | .731 | .544 |
| PersonalCriticalAwareness | .711 | .454 | .360 |
| Organizational | .952 | .605 | .544 |

**Integrative analysis for research questions 1 and 2.** This dissertation took two different approaches to establishing the factor structure of items designed to measure building capacity for student leadership. The first approach looked at the items in the personal, interpersonal, and organizational dimensions as originally conceptualized and designed in the survey. The second approach looked at all 52 of the student leadership capacity building items together, regardless of intended dimension. There are advantages of each approach. This study initially intended to validate three separate scales focused on the personal, interpersonal, and organizational level. This goal was accomplished. However, the separate scales were highly correlated with each other, above Gaskin's (2016) < .80 suggestion.

When high inter-factor correlations exist, T. Brown (2015) advises that all of the items can be loaded onto one factor. Therefore, PCA and CFA were run again with the 52 items from all three dimensions to determine if an overall building student leadership capacity scale could be developed with the study data. The limitation of this approach was that the lead-in questions on the survey asked students to "Think about" each of the individual—personal, interpersonal, and organizational—constructs before responding to the items designed to measure each of them. Despite this limitation, factor analyses that started with the full set of 52 items resulted in a good

Overall Student Leadership Capacity Building Scale. The resulting three-factor overall scale had good model fit and included items from all three dimensions as well as all eight mechanism and the three leadership competencies. A diagram of the steps taken throughout the factor analysis process is displayed in Figure 4.5.

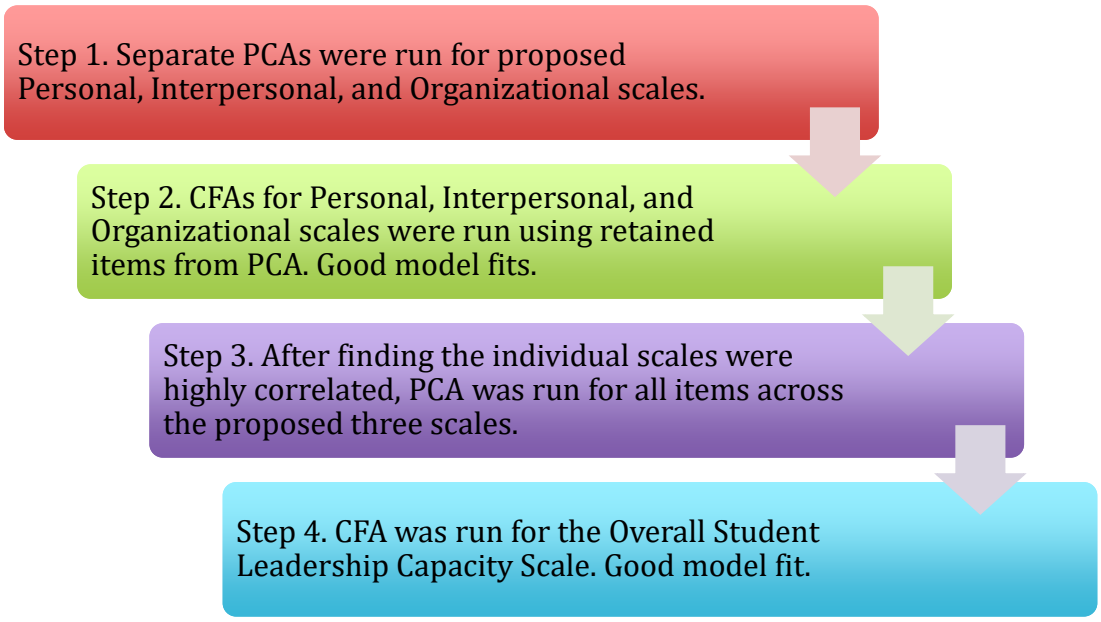


*Figure 4.5.* Steps Taken During Factor Analysis.

For a summary of PCA results for the three individual dimension scales and the three-factor overall scale, see Table 4.17. Cronbach's alpha was good (>.70) for all scales. All scales had eigenvalues > 1. The PersonalCriticalAwareness and RadicalCollegiality factors for the Overall Student Leadership Capacity Building Scale have Cronbach's alphas above the recommended ceiling of .90 (Nunnally, 1978). The Personal, Interpersonal, and Organizational Student Leadership Capacity Building Scales all account for approximately 60% of the variance, the recommended minimum for variance explained (Hinkin, 1998).

Table 4.17

*Summary of Scale Development PCA Results*

| Scale | Components | # Items | Eigenvalues | Shared Variance | Cronbach's alpha |
|---|---|---|---|---|---|
| Personal Student Leadership Capacity Building | InclusivePositivity | 9 | 6.287 | 60.8% | .836 |
| | CriticalAwareness | 3 | 1.015 | | .708 |
| Interpersonal Student Leadership Capacity Building | One | 15 | 8.868 | 59.1%[a] | .950[b] |
| Organizational Student Leadership Capacity Building | One | 20 | 12.303 | 61.5% | .966[b] |
| Overall Student Leadership Capacity Building | Organizational | 17 | 12.783 | 64.4% | .960[b] |
| | Personal | | | | |
| | CriticalAwareness | 5 | 2.259 | | .830 |
| | RadicalCollegiality | 2 | 1.065 | | .844 |

[a]Should be above 60%. [b]Should be < .90

The Personal Student Leadership Capacity Building Scale includes two factors, CriticalAwareness and InclusivePositivity. Each factor has three items, for a total of six items in the scale. As indicated by the factor names, all underlying leadership competencies are reflected in the final items. Loadings on the CriticalAwareness factor were between .60 and .74. Loadings on the InclusivePositivity factor were between .68 and .82. Model fit is generally good, but MSV scores are higher than AVE scores for both factors, indicating poor discriminant validity, and reflecting the relatively high correlation between the two factors.

The Interpersonal Student Leadership Capacity Building Scale is a single-factor model with eight items and loadings between .69 and .80. It also retains all underlying leadership competencies. Model fit for this scale is good.

The Organizational Student Leadership Capacity Building Scale is a single-factor model with 12 items, loadings ranging from .68 to .86, and strong model fit. It also includes items representing all three leadership competencies. As a set, the three dimension-specific scales have 26 items, and all competencies and mechanisms are represented. CFA results for each of the scales are displayed in Table 4.18.

The Overall Student Leadership Capacity Building Scale focused more broadly on the building student leadership capacity construct, included all three dimensions, and had three factors and strong model fit. The three factors, named RadicalCollegiality, PersonalCriticalAwareness, and Organizational, had two, three, and 13 items respectively. In total, this overall scale has 18 items. Loadings on the two-item RadicalCollegiality factor ranged from .67 to .86. Loadings on the three-item PersonalCriticalAwareness factor ranged from .58 to .75. Loadings on the 13-item Organizational factor ranged from .67 to .86. Model fit was strong. Although the AVE score of .454 was below the suggested maximum of .50, Malhotra and Dash (2011) argue AVE can be too strict. Thus, the scale has acceptable reliability and validity. The model also retained items representing all three underlying dimensions—personal, interpersonal, and organizational—as well as all three leadership competencies and all eight mechanisms.

With the three separate dimension-specific scales, more items were retained, which provides more detail, and has more balance among the three personal, interpersonal, and organizational capacity building dimensions. The set of dimension-specific scales has seven personal items, eight interpersonal items, and eleven organizational items. While the overall scale also retained eleven organizational items, it only has three personal items and four interpersonal items.

Table 4.18

*Summary of Scale Development CFA Results*

| Scale | Factors | # Items | Loadings | CMIN/df | CFI | RMSEA | CR | AVE | MSV |
|---|---|---|---|---|---|---|---|---|---|
| Personal Capacity Building | CriticalAwareness | 3 | .60 - .74 | 1.613 | .987 | .047 | .711 | .453[a] | .607[b] |
| | InclusivePositivity | 3 | .68 - .82 | | | | .860 | .607 | .866[b] |
| Interpersonal Capacity Building | One | 8 | .69 - .80 | 1.767 | .988 | .052[c] | .906 | .581 | N/A |
| Organizational Capacity Building | One | 12 | .68 - .86 | 1.504 | .989 | .043 | .947 | .598 | N/A |
| Overall Student Leadership Capacity Building | Organizational | 13 | .67 - .86 | 1.616 | .975 | .047 | .952 | .605 | .544 |
| | Personal | 3 | .58 - .75 | | | | .711 | .454[a] | .360 |
| | CriticalAwareness RadicalCollegiality | 2 | .85 - .86 | | | | .844 | .731 | .544 |

[a]Should be > .50, but some scholars advise this is overly strict. [b]Should be < AVE. [c]Should be < .05

The length of the scale(s) should be optimized as much as possible, as brevity will make it much more manageable for high school students to complete the scale. Both the set of the three dimension-specific scales and the Overall Student Leadership Capacity Building Scale retained all theorized leadership competencies and mechanisms, so choosing one approach does not detract from those content areas. Finally, aside from the slightly high MSV scores for the Personal Student Leadership Capacity Building Scale, all scales have good model fit.

**Research Question 3**

Research Question 3, asked: Are there differences that emerge across subgroups of participants for each of the factor validated scales? To address this question, independent samples t-tests and one-way ANOVAs (analysis of variance) with Tukey post-hoc tests were run using the various demographic categories as the grouping variables. Analyses under the first subheading used factor scores from the overarching, Overall Student Leadership Capacity Building Scale as the dependent variables. In the following subsection, factor scores for the Personal, Interpersonal, and Organizational Student Leadership Capacity Building Scales were entered as the dependent variables.

**Comparing means for the overall student leadership capacity building scale.** T-tests and ANOVA statistics were run with the more precise regression adjusted factor scores, but as these factor scores are not easily interpretable or intuitive, the reported mean scores are averages of the items in each factor. For the Organizational factor in the Overall Student Leadership Capacity Building Scale, students that had been in the school for less than one year ($M$ =4.08) scored significantly lower than students that had been at the school for more than a year ($M$ = 4.46), with $t(95.983) = 2.551$, $p = .012$, equal variances not assumed.

Rural and urban students mean scores were significantly different across all three factors: PersonalCriticalAwareness ($M$ = 4.14; $M$ =4.84, respectively), with $t(278) = 5.736$, $p = .000$, equal variances assumed; RadicalCollegiality ($M$ = 3.90; $M$ = 4.88, respectively), with $t(136.728) = 5.987$, $p = .000$, equal variances not assumed; and Organizational ($M$ = 3.15; $M$ = 4.61, respectively), with $t(126.593) = 10.952$, $p = .000$, equal variances not assumed. Similarly, there was a significant difference in means across schools for PersonalCriticalAwareness, with $F(8, 271) = 5.538$, $p = .000$; RadicalCollegiality, with $F(8, 271) = 6.217$, $p = .000$; and Organizational, with $F(8, 271) = 21.213$, $p = .000$. The Tukey post-hoc test showed the mean score of Rural1 ($M$ = 4.10) was significantly lower than Transfer1 ($M$ = 5.30) and Transfer2 ($M$ = 4.87) on the PersonalCriticalAwareness scale. For the RadicalCollegiality factor, Rural1 ($M$ = 3.93) was significantly lower than ENL1 ($M$ = 4.86), ENL3 ($M$ = 4.95), Transfer1 ($M$ = 5.28), Transfer2 ($M$ = 4.87), and Rural2 ($M$ = 3.65) had significantly lower means than Transfer1 ($M$ = 5.28) and Transfer2 ($M$ = 4.87). For the Organizational factor, Rural1 ($M$ = 3.09) had significantly lower mean scores than all urban schools ($M$ => 4.36), and mean scores for Rural2 ($M$ = 3.67) were significantly less than ENL1 ($M$ = 4.71) and Transfer2 ($M$ = 4.86).

The nature of the sample likely influenced these urbanicity differences as well as other related variables. The rural participants were largely white native English speakers and many of the more diverse urban participants were not native English speakers. Mean scores for native English speakers were significantly lower than for non-native English speakers on the factors of PersonalCriticalAwareness ($M$ = 4.50 and $M$ = 4.77, respectively), with $t(276) = 2.282$, $p = .023$, equal variances assumed; RadicalCollegiality ($M$ = 4.34 and $M$ = 4.85, respectively), with $t(274.104) = 3.449$, $p = .001$, equal variances not assumed; and Organizational ($M$ = 3.81 and

*M* = 4.60, respectively), with *t*(271.446) = 6.406, *p* = .000, equal variances not assumed. Additionally, white students (*M* = 4.21) scored significantly lower than Asian or Pacific Islander students (*M* = 4.97) and Latina/Latino students (*M* = 4.78) on PersonalCriticalAwareness, with *F*(7, 269) = 4.143, *p* = .000. White students (*M* = 4.05) also scored significantly lower than Asian or Pacific Islander students (*M* = 5.00) and Latina/Latino students (*M* = 4.91) on RadicalCollegiality, with *F*(7, 269) = 4.341, *p* = .000. Additionally, white students (*M* = 3.36) had lower mean scores than Asian or Pacific Islander (*M* = 4.75), Latina/Latino (*M* = 4.63), and Black/African-American students (*M* = 4.45) on the Organizational factor, with *F*(7, 269) = 12.957, *p* = .000.

To determine if the significant differences in race and native language were a function of the sample, MANCOVAs (multiple analyses of covariance) were run. These tests used urbanicity as a covariate to see if the significant differences in means by native language and ethnicity remained when holding urbanicity constant. The results of these analyses indicated there were no significant differences by native language or ethnicity on any of the factors on the Overall Student Leadership Capacity Building Scale after controlling for urbanicity, that is, rural and urban respondents.

Not surprisingly, students in different years of school also had significant differences in mean scores. Ninth grade students' mean scores were significantly lower than the mean scores of eleventh and twelfth grade students on PersonalCriticalAwareness (*M* = 4.17, *M* = 4.82, and *M* = 4.74 respectively), with *F*(3, 272) = 5.124, *p* = .002; RadicalCollegiality (*M* = 3.92, *M* = 4.97, and *M* = 4.76 respectively), with *F*(3, 272) = 8.923, *p* = .000; and Organizational (*M* = 3.37, *M* = 4.54, and *M* =4.37 respectively), with *F*(3, 272) = 14.143, *p* = .000. Mean scores also differed significantly based on the hours students worked per week for the

RadicalCollegiality factor, $F(3, 272) = 3.172$, $p = .025$, in which students working more than 18 hours per week ($M = 3.93$) scored significantly lower than students working 1-9 hours per week ($M = 4.43$).

**Comparing means for the personal, interpersonal, and organizational student leadership capacity building scales.** Using the same process for the three dimension-specific scales, average mean scores were compared by group. Significant differences were found by urbanicity for all scales: Personal Capacity Building (on InclusivePositivity, with $t(140.813) = 8.995$, $p = .000$, equal variances not assumed; and on CriticalAwareness, with $t(278) = 4.038$, $p = .000$); Interpersonal Capacity Building, with $t(133.138) = 10.596$, $p = .000$, equal variances not assumed; and Organizational Capacity Building, with $t(124.024) = 10.995$, $p = .000$, equal variances not assumed. Rural mean scores ($M = 3.75$, $M = 4.24$, $M = 3.23$, and $M = 3.20$ respectively) were lower than urban scores ($M = 4.88$, $M = 4.74$, $M = 4.64$, and $M = 4.67$ respectively) on all scales.

Again, most likely related to the largely white, native English speaking characteristics of the students from the rural schools and the more diverse non-native language urban students, there were also significant differences by native language for all scales: Personal Capacity Building (on InclusivePositivity only, with $t(275.828) = 6.961$, $p = .000$, equal variances not assumed; Interpersonal Capacity Building, with $t(272.879) = 7.179$, $p = .000$, equal variances not assumed; and Organizational Capacity Building, with $t(270.945) = 6.270$, $p = .000$, equal variances not assumed. Mean scores for native English speakers ($M = 4.18$, $M = 3.81$, and $M = 3.87$ respectively) were lower than for non-native English speakers ($M = 4.97$, $M = 4.68$, and $M = 4.64$ respectively) on all scales.

Mean scores on all scales also differed significantly by race. On the Personal Student Leadership Capacity Building Scale's InclusivePositivity factor, white students ($M = 3.82$) had significantly lower mean scores than Asian or Pacific Islander ($M = 5.22$), Latina/Latino ($M = 4.89$), Black or African-American ($M = 4.78$), with $F(7, 269) = 12.887$, $p = .000$. On both the Interpersonal and Organizational Student Leadership Capacity Building Scales, white students' ($M = 3.38$ and $M = 3.42$ respectively) mean scores were significantly lower than Asian or Pacific Islander ($M = 4.93$ and M = 4.76 respectively), Latina/Latino ($M = 4.65$ and $M = 4.69$, respectively), and Black or African-American students ($M = 4.50$ and $M = 4.49$, respectively), with $F(7, 269) = 14.714$, $p = .000$ and $F(7, 269) = 12.630$, $p = .000$, respectively.

MANCOVAs were run to determine if the significant differences in race and native language remained when urbanicity was held constant. The results of these analyses indicated there were no significant differences by native language or ethnicity for any of the individual scales after controlling for urbanicity, that is, rural and urban student respondents.

There were also significant differences based on year in school for all scales: Personal Capacity Building (on InclusivePositivity, with $F(3, 272) = 14.582$, $p = .000$ and on CriticalAwareness, with $F(3, 272) = 2.956$, $p = .033$); Interpersonal Capacity Building, with $F(3, 272) = 18.814$, $p = .000$; and Organizational Capacity Building, with $F(3, 272) = 14.463$, $p = .000$. For the CriticalAwareness factor of the Personal scale, ninth grade mean scores ($M = 4.25$) were significantly lower than eleventh grade mean scores ($M = 4.76$). For each of the other scales, ninth grade students' ($M = 3.76$, $M = 3.29$, and $M = 3.44$ respectively) mean scores were significantly lower than tenth ($M = 4.60$, $M = 4.20$, and $M = 4.13$ respectively), eleventh ($M = 4.80$, $M = 4.57$, and $M = 4.64$ respectively), and twelfth grade students ($M = 4.76$, $M = 4.49$, and $M = 4.41$ respectively). Additionally, on the Organizational factor, tenth grade

mean scores ($M = 4.13$) were significantly lower than eleventh grade mean scores ($M = 4.64$). Whereas there were significant differences in the RadicalCollegiality factor of the Overall Student Leadership Capacity Building Scale by hours worked, there were no significant differences for any of the separate scales.

**Metric invariance confirmation of differences across demographic groups.** Using AMOS, metric invariance testing was conducted to further explore the group differences identified as significant using SPSS. For each of the four models—the overall and the three dimension-specific scales—Chi-squares were computed for both unconstrained and constrained models by demographic group. The purpose of Chi-square difference testing was to determine if there were significant differences in how the models fit for different groups of students.

In order to run these metric invariance tests, some demographic data needed to be recoded to even out the sample sizes across groups. Table 4.19 displays frequency and percent distributions for the variable Time in School as well as the Hours Worked variable which were recoded for metric invariance testing. The only groups that could not be recoded were schools with small samples. The schools ENL2, Portfolio1, and Rural2 were omitted from the metric invariance testing, as AMOS would not allow the analysis to run with the small group sizes.

Table 4.19

*Descriptive Statistics for Additional Demographics and Demographic Recodes*

| Demographic | | Frequency | Percent |
|---|---|---|---|
| Time in School | 3 months-1 year | 54 | 19.3% |
| | more than 1 year | 226 | 80.7% |
| | Total | 280 | 100.0% |
| Hours Worked Recode | 0 hours | 186 | 66.4% |
| | 1-9 hours | 50 | 17.9% |
| | More than 9 hours | 40 | 14.3% |
| | Unknown | 4 | 1.4% |
| | Total | 280 | 100.0% |

***Metric invariance for overall student leadership capacity building scale.*** Metric invariance testing was conducted with groups SPSS identified as having significant differences in mean scores. Results supported SPSS findings that there were significant differences by urbanicity ($\chi^2 = 30.9$, $p = .030$) and year in school ($\chi^2 = 79.7$, $p = .013$). Despite ANOVA with post hoc test results suggesting there were significant differences on the Organizational factor by time at school, and on the RadicalCollegiality factor by hours worked per week, the groups were found to be metrically invariant.

***Metric invariance for individual student leadership capacity building scales.*** Metric invariance testing for the individual, Personal, Interpersonal, and Organizational Student Leadership Capacity Building Scales yielded similar results as found through t-tests and ANOVA with post hoc analysis using average mean scores in SPSS. Despite ANOVA with post hoc test results suggesting there were significant differences for the Personal Leadership Capacity Building Scale by urbanicity and year in school, the groups were found to be metrically invariant. On the Interpersonal Student Leadership Capacity Building Scale, results supported SPSS findings that there were significant differences by year in school ($\chi^2 = 50.362$, $p = .000$). Despite ANOVA with post hoc test results suggesting there were significant differences for the Interpersonal Leadership Capacity Building Scale by urbanicity, groups were invariant. On the Organizational Student Leadership Capacity Building Scale, results supported ANOVA findings that there was a significant difference by urbanicity ($\chi^2 = 27.942$, $p = .006$). However, ANOVA results suggesting significant differences by year in school (e.g., freshmen, sophomore) were not supported by metric invariance testing.

**Summary of research question 3.** In conclusion, after holding urbanicity constant and conducting metric invariance tests to confirm the initial t-tests and ANOVAs, some significant

differences were found. On the Overall Student Leadership Capacity Building Scale, there were significant differences by urbanicity, with rural students scoring lower than urban students, and year in school, with ninth grade students scoring lower than upper classmen. On the Interpersonal Student Leadership Capacity Building Scale, there was a significant difference by year in school, with ninth grade students scoring lower than students in all other grades. On the Organizational Student Leadership Capacity Building Scale, scores differed significantly by urbanicity, whereby rural students' scores were lower than urban students' scores.

**Research Question 4**

Research Question 4, the final research question for Phase 1, asked: How do students perceive the presence of student leadership competencies and mechanisms in their schools? To address this question, descriptive statistics of all student leadership competency and mechanism items were reported. Additionally, t-tests and ANOVAs with Tukey post-hoc tests were run to determine if there were significant differences in mean scores on leadership competencies or mechanisms by school.

**Descriptive statistics for competencies and mechanisms.** Descriptive statistics, which included mean scores, standard deviations, and frequency distributions for all of the original items intended to reflect the three leadership competencies were computed. Mean scores, standard deviations, and frequency distributions were also computed for the items designed to measure the eight student leadership mechanisms.

***Leadership competency descriptive statistics.*** The mean scores for critical awareness ($M = 4.34$), inclusivity ($M = 4.38$), and positivity ($M = 4.31$) were similar. Table 4.20 reports descriptive statistics for student leadership competencies. Although mean scores were similar, some items had higher levels of agreement (*agree* or *strongly agree*) or disagreement (*disagree*

or *strongly disagree*) than others. In the critical awareness group, the item, "My teachers encourage me to ask "Why?" had 71.1% agreement, and 70% of students agreed with the "In my classes, I learn to recognize the effects of my actions on others" statement. Other critical awareness items with a high percentage of agreement were: "In my school, I am taught to see things from many points of view" (73.2%) and "My teachers teach me to challenge usual ways of thinking" (72.8%). The items with the highest amount of disagreement (strongly disagreed or disagreed) were: "If I think a school policy is unfair, I work with others to try to fix it" (22.1%) and "After a new rule or a new schedule is made, students and teachers are asked to share their reactions to the change" (22.5%).

Of the inclusivity items, three items had over 70% agreement (*agree* or *strongly agree*): "During class discussions, I am taught to balance listening and speaking" (71.1%), "At my school, I learn how to work with people of different cultures and backgrounds" (74.6%), and "When doing group work in class, I learn to appreciate the differences each person brings to the group" (76.1% ). The items with the highest percentage of *strongly disagree* or *disagree* responses were: "Before making a school decision, leaders ask what all the students think about it" (21.4% ), "At my school, students and teachers work together to create lessons" (21.8%), and "Students help create discipline policies for the school" (26.1%).

The highest percentage of *strongly agree* or *agree* responses for a positivity item was "At my school, I am asked to think about what I can do to improve my skills," (75%). The items with which the highest percentage of students disagreed or strongly disagreed were: "Student schedules include time for mentoring" (22.5%), "Students and teachers at my school attend workshops or trainings together" (23.2%), and "At my school, students are sometimes paid for the work they do to help the school" (40%).

Table 4.20

*Percentage Distribution for Leadership Competencies*

| Items | *M* | *SD* | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|---|---|
| Average Critical Awareness Scores | 4.34 | 1.342 | 5.7% | 7.9% | 8.3% | 22.2% | 36.8% | 19.0% |
| Critical1 In my classes, I am taught to name my feelings. | 4.07 | 1.338 | 6.1% | 9.3% | 11.1% | 29.6% | 33.2% | 10.7% |
| Critical2 My teachers encourage me to ask "Why?"[a] [b] | 4.78 | 1.282 | 3.9% | 4.3% | 5.0% | 15.7% | 39.3% | 31.8% |
| Critical3 In my classes, I learn to recognize the effects of my actions on others.[b] | 4.69 | 1.177 | 4.6% | 2.9% | 1.8% | 20.7% | 50.0% | 20.0% |
| Critical4 In my classes, I am asked to identify when only one side of an argument is presented.[a] [b] | 4.29 | 1.272 | 4.3% | 8.2% | 8.2% | 25.0% | 42.5% | 11.8% |
| Critical5 My teachers teach me to challenge usual ways of thinking.[a] | 4.79 | 1.246 | 3.9% | 3.6% | 5.0% | 14.6% | 43.2% | 29.6% |
| Critical6 In my school, I am taught to see things from many points of view. | 4.91 | 1.243 | 2.5% | 4.6% | 4.6% | 15.0% | 33.9% | 39.3% |
| Critical7 I often work with others to gather information about important school issues.[b] | 4.23 | 1.390 | 5.4% | 10.0% | 9.3% | 23.2% | 36.1% | 16.1% |
| Critical8 Groups at my school talk about how much progress they have made. | 4.05 | 1.327 | 4.3% | 12.1% | 12.5% | 27.1% | 33.2% | 10.7% |
| Critical9 If I think a school policy is unfair, I work with others to try to fix it. | 3.85 | 1.491 | 10.0% | 12.1% | 12.5% | 24.6% | 30.0% | 10.7% |

| Items | *M* | *SD* | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|---|---|
| Critical10 In group discussions, I see both students and teachers respectfully listening to critical feedback. | 4.54 | 1.362 | 5.0% | 4.6% | 9.3% | 20.4% | 33.9% | 26.8% |
| Critical11 Students are often asked what they think the school is doing well and what the school could do better.[a b] | 4.23 | 1.418 | 6.8% | 8.6% | 8.2% | 24.6% | 35.0% | 16.8% |
| Critical12 At my school, both students and teachers can ask questions and give input before school decisions are made.[a b] | 4.13 | 1.395 | 7.1% | 9.3% | 8.9% | 25.0% | 37.9% | 11.8% |
| Critical13 After a new rule or a new schedule is made, students and teachers are asked to share their reactions to the change.[a b] | 3.87 | 1.508 | 10.0% | 12.5% | 11.8% | 23.6% | 30.7% | 11.4% |
| Average Inclusivity Scores | 4.38 | 1.368 | 6.4% | 6.6% | 8.5% | 21.2% | 36.3% | 21.0% |
| Inclusivity1 At my school, I am taught to make sure all voices are heard. | 4.70 | 1.321 | 4.6% | 3.9% | 6.8% | 16.1% | 38.6% | 30.0% |
| Inclusivity2 When doing group work in class, I learn to appreciate the differences each person brings to the group. | 4.87 | 1.189 | 3.6% | 3.2% | 2.9% | 14.3% | 45.4% | 30.7% |
| Inclusivity3 During class discussions, I am taught to balance listening and speaking. | 4.82 | 1.138 | 2.1% | 3.2% | 5.4% | 18.2% | 41.8% | 29.3% |
| Inclusivity4 At my school, I learn how to work with people of different cultures and backgrounds. | 4.93 | 1.326 | 3.9% | 4.3% | 4.6% | 12.5% | 31.4% | 43.2% |

| Items | *M* | *SD* | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|---|---|
| Inclusivity5 My teachers explain ideas in many ways so all students can learn.[b] | 4.71 | 1.287 | 3.9% | 3.6% | 7.9% | 17.1% | 37.5% | 30.0% |
| Inclusivity6 At school, when there is a conflict, we work through it respectfully.[b] | 4.21 | 1.387 | 6.4% | 7.5% | 10.4% | 26.1% | 33.6% | 16.1% |
| Inclusivity7 In school, I learn from people who think differently than me. | 4.65 | 1.269 | 5.0% | 2.9% | 5.7% | 19.3% | 42.5% | 24.6% |
| Inclusivity8 Groups at my school only make decisions when every group member can live with it.[a b] | 4.06 | 1.345 | 6.1% | 8.9% | 13.6% | 26.8% | 33.9% | 10.7% |
| Inclusivity9 Groups at my school respect the voices of all members.[b] | 4.34 | 1.485 | 7.5% | 7.1% | 8.6% | 20.7% | 32.5% | 23.6% |
| Inclusivity10 In my school, both teachers and students take time to build relationships with me.[a b] | 4.48 | 1.381 | 3.9% | 8.2% | 8.9% | 19.6% | 33.9% | 25.4% |
| Inclusivity11 At my school, I am able to work with teachers to accomplish common goals.[a] | 4.66 | 1.265 | 4.6% | 2.1% | 6.8% | 22.9% | 36.1% | 27.5% |
| Inclusivity12 At my school, students and teachers work together to create lessons.[a b] | 3.83 | 1.560 | 11.8% | 10.0% | 15.7% | 22.9% | 25.0% | 14.6% |
| Inclusivity13 In my school, there is a clear process to share information between students and teachers.[a] | 4.23 | 1.444 | 7.9% | 6.8% | 11.4% | 18.6% | 39.3% | 16.1% |
| Inclusivity14 Times and locations of school committee meetings are clearly communicated.[a b] | 4.33 | 1.320 | 5.4% | 7.5% | 6.4% | 25.0% | 41.1% | 14.6% |

| Items | *M* | *SD* | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|---|---|
| Inclusivity15 Before making a school decision, leaders ask what all the students think about it.[a] | 3.88 | 1.557 | 13.2% | 8.2% | 12.1% | 22.5% | 32.1% | 11.8% |
| Inclusivity16 Students in my school are often asked to be on committees that try to improve student learning. | 4.26 | 1.347 | 6.1% | 7.5% | 6.1% | 30.7% | 33.9% | 15.7% |
| Inclusivity17 Students are invited to participate in school decisions that affect how learning happens.[a] [b] | 4.06 | 1.438 | 8.9% | 8.2% | 10.0% | 25.0% | 36.1% | 11.8% |
| Inclusivity18 At my school, teachers believe they can learn from students. | 4.36 | 1.345 | 5.0% | 6.8% | 9.6% | 22.5% | 37.5% | 18.6% |
| Inclusivity19 Students help create discipline policies for the school. | 3.77 | 1.582 | 13.6% | 12.5% | 9.3% | 23.6% | 30.4% | 10.7% |
| Inclusivity20 I know students who are on school committees with other students and teachers.[a] [b] | 4.43 | 1.364 | 5.4% | 7.1% | 6.8% | 20.4% | 40.4% | 20.0% |
| Inclusivity21 At my school, students often have opportunities to talk about school issues in small groups.[b] | 4.30 | 1.369 | 5.0% | 9.3% | 8.6% | 21.4%` | 39.3% | 16.4% |
| Average Positivity Scores | 4.31 | 1.379 | 6.8% | 7.6% | 8.2% | 21.4% | 37.1% | 18.8% |
| Positivity1 At my school, I am taught to see a difficult assignment as a chance to learn. | 4.73 | 1.165 | 2.5% | 3.2% | 7.1% | 18.9% | 42.1% | 26.1% |
| Positivity2 At my school, I am asked to identify the strengths of others.[b] | 4.19 | 1.246 | 2.9% | 10.0% | 11.4% | 27.9% | 36.8% | 11.1% |

| Items | *M* | *SD* | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|---|---|
| Positivity3 I am taught how to create an image of my best self in class. | 4.53 | 1.203 | 3.2% | 3.2% | 10.0% | 25.05% | 37.9% | 20.7% |
| Positivity4 I feel comfortable trying new things in my school.[b] | 4.60 | 1.356 | 5.0% | 5.7% | 5.4% | 19.3% | 37.5% | 27.1% |
| Positivity5 At my school, I am taught to recognize times when I was at my best.[b] | 4.61 | 1.196 | 2.5% | 4.6% | 7.9% | 22.1% | 40.4% | 22.5% |
| Positivity6 At my school, I am asked to think about what I can do to improve my skills. | 4.92 | 1.096 | 1.8% | 3.2% | 3.6% | 16.4% | 42.9% | 32.1% |
| Positivity7 If a school leader disagrees with my idea, we listen to and learn from each other.[b] | 4.20 | 1.419 | 7.1% | 8.2% | 8.6% | 25.4% | 34.6% | 16.1% |
| Positivity8 I usually feel supported by both students and teachers in my school. | 4.36 | 1.372 | 5.0% | 8.6% | 7.5% | 21.8% | 38.2% | 18.9% |
| Positivity9 At my school, students and teachers give more praise than criticism.[b] | 4.19 | 1.387 | 7.1% | 6.4% | 11.4% | 25.0% | 35.4% | 14.6% |
| Positivity10 At school, students and teachers often celebrate accomplishments. | 4.35 | 1.469 | 7.5% | 7.1% | 8.2% | 18.2% | 37.5% | 21.4% |
| Positivity11 In my school, students and teachers have regular opportunities to improve their leadership skills.[a b] | 4.34 | 1.286 | 3.6% | 8.6% | 8.2% | 25.0% | 38.9% | 15.7% |
| Positivity12 Students and teachers at my school attend workshops or trainings together. | 3.94 | 1.530 | 8.9% | 14.3% | 10.4% | 20.4% | 32.9% | 13.2% |

| Items | *M* | *SD* | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|---|---|
| Positivity13 At my school, every student has a mentor with whom they have a positive relationship. | 4.36 | 1.433 | 6.1% | 8.2% | 8.6% | 18.9% | 37.1% | 21.1% |
| Positivity14 Student schedules include time for mentoring.[b] | 4.08 | 1.649 | 13.2% | 9.3% | 6.1% | 17.5% | 35.4% | 18.6% |
| Positivity15 Student leaders at my school are formally recognized for the work they do to help the school.[a b] | 4.25 | 1.385 | 6.1% | 8.6% | 8.2% | 23.9% | 37.5% | 15.7% |
| Positivity16 My school often tries new ways of doing things.[a] | 4.33 | 1.390 | 7.1% | 6.1% | 7.5% | 22.5% | 40.0% | 16.8% |
| Positivity17 At my school, students are given academic credit for after school leadership activities.[b] | 4.23 | 1.463 | 8.6% | 7.1% | 8.6% | 21.1% | 38.2% | 16.4% |
| Positivity18 At my school, students are sometimes paid for the work they do to help the school. | 3.33 | 1.775 | 25.0% | 15.0% | 8.2% | 16.4% | 25.0% | 10.4% |

[a]Item was retained in the Overall Student Leadership Capacity Building Scale. [b]Item was retained in a dimension-specific scale.

***Student leadership capacity building mechanisms descriptive statistics.*** Table 4.21 presents descriptive statistics for the items designed to measure the eight student leadership mechanisms. The highest mean scores were for the pedagogy ($M = 4.45$) and relationship ($M = 4.40$) mechanisms. "During class discussions, I am taught to balance listening and speaking," had a high percentage of agreement (71.1%), while "At my school, students and teachers work together to create lessons," had a high percentage of disagreement (21.8%).

The mechanisms of research ($M = 4.11$), recognition ($M = 4.04$), and governance structure ($M = 4.03$) had the lowest mean scores. The highest percentage of *strongly disagree* or dis*agree* responses for a research item was "After a new rule or a new schedule is made, students and teachers are asked to share their reactions to the change," (22.5%). The item with the lowest mean score of all proposed scale items was "At my school, students are sometimes paid for the work they do to help the school," ($M = 3.33$). This item also had the highest percentage of disagreement (40%). The highest percentage of disagreement for a governance item was "Before making a school decision, leaders ask what all the students think about it," (21.4%). Additional items with high levels of disagreement were "Student schedules include time for mentoring" (22.5%) and "At my school, students and teachers work together to create lessons," (21.8%).

Table 4.21

*Percentage Distribution for Student Voice Mechanisms*

| Items | *M* | *SD* | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|---|---|
| Average RadicalCollegiality Scores | 4.34 | 1.384 | 6.1% | 7.2% | 8.9% | 22.3% | 35.0% | 20.4% |
| RadicalCollegiality1 In group discussions, I see both students and teachers respectfully listening to critical feedback. | 4.54 | 1.362 | 5.0% | 4.6% | 9.3% | 20.4% | 33.9% | 26.8% |
| RadicalCollegiality2 At my school, I am able to work with teachers to accomplish common goals.[a] | 4.66 | 1.265 | 4.6% | 2.1% | 6.8% | 22.9% | 36.1% | 27.5% |
| RadicalCollegiality3 If a school leader disagrees with my idea, we listen to and learn from each other.[b] | 4.20 | 1.419 | 7.1% | 8.2% | 8.6% | 25.4% | 34.6% | 16.1% |
| RadicalCollegiality4 At my school, teachers believe they can learn from students. | 4.36 | 1.345 | 5.0% | 6.8% | 9.6% | 22.5% | 37.5% | 18.6% |
| RadicalCollegiality5 Students and teachers at my school attend workshops or trainings together. | 3.94 | 1.530 | 8.9% | 14.3% | 10.4% | 20.4% | 32.9% | 13.2% |
| Average Pedagogy Scores | 4.45 | 1.328 | 5.9% | 5.6% | 9.7% | 19.4% | 34.8% | 24.6% |
| Pedagogy1 During class discussions, I am taught to balance listening and speaking. | 4.82 | 1.138 | 2.1% | 3.2% | 5.4% | 18.2% | 41.8% | 29.3% |
| Pedagogy2 My teachers explain ideas in many ways so all students can learn.[b] | 4.71 | 1.287 | 3.9% | 3.6% | 7.9% | 17.1% | 37.5% | 30.0% |
| Pedagogy3 At my school, students and teachers work together to create lessons.[a b] | 3.83 | 1.560 | 11.8% | 10.0% | 15.7% | 22.9% | 25.0% | 14.6% |

| Items | *M* | *SD* | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|---|---|
| Average Research Scores | 4.11 | 1.439 | 7.4% | 10.4% | 9.8% | 23.8% | 33.9% | 14.8% |
| Research1 I often work with others to gather information about important school issues.[b] | 4.23 | 1.390 | 5.4% | 10.0% | 9.3% | 23.2% | 36.1% | 16.1% |
| Research2 Students are often asked what they think the school is doing well and what the school could do better.[a b] | 4.23 | 1.418 | 6.8% | 8.6% | 8.2% | 24.6% | 35.0% | 16.8% |
| Research3 After a new rule or a new schedule is made, students and teachers are asked to share their reactions to the change.[a b] | 3.87 | 1.508 | 10.0% | 12.5% | 11.8% | 23.6% | 30.7% | 11.4% |
| Average Relationship Scores | 4.40 | 1.395 | 5.0% | 8.3% | 8.3% | 20.1% | 36.4% | 21.8% |
| Relationship1 In my school, both teachers and students take time to build relationships with me.[a b] | 4.48 | 1.381 | 3.9% | 8.2% | 8.9% | 19.6% | 33.9% | 25.4% |
| Relationship2 I usually feel supported by both students and teachers in my school. | 4.36 | 1.372 | 5.0% | 8.6% | 7.5% | 21.8% | 38.2% | 18.9% |
| Relationship3 At my school, every student has a mentor with whom they have a positive relationship. | 4.36 | 1.433 | 6.1% | 8.2% | 8.6% | 18.9% | 37.1% | 21.1% |
| Average Consistency Scores | 4.21 | 1.471 | 8.8% | 7.9% | 8.0% | 20.4% | 38.6% | 16.4% |
| Consistency1 In my school, there is a clear process to share information between students and teachers.[a] | 4.23 | 1.444 | 7.9% | 6.8% | 11.4% | 18.6% | 39.3% | 16.1% |
| Consistency2 Times and locations of school committee meetings are clearly communicated.[a b] | 4.33 | 1.320 | 5.4% | 7.5% | 6.4% | 25.0% | 41.1% | 14.6% |

| Items | *M* | *SD* | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|---|---|
| Consistency3 Student schedules include time for mentoring.[b] | 4.08 | 1.649 | 13.2% | 9.3% | 6.1% | 17.5% | 35.4% | 18.6% |
| Average Governance Structures Scores | 4.03 | 1.434 | 8.8% | 8.7% | 11.2% | 24.8% | 35.0% | 11.5% |
| Governance1 Groups at my school only make decisions when every group member can live with it.[a b] | 4.06 | 1.345 | 6.1% | 8.9% | 13.6% | 26.8% | 33.9% | 10.7% |
| Governance2 At my school, both students and teachers can ask questions and give input before school decisions are made.[a b] | 4.13 | 1.395 | 7.1% | 9.3% | 8.9% | 25.0% | 37.9% | 11.8% |
| Governance3 Before making a school decision, leaders ask what all the students think about it.[a] | 3.88 | 1.557 | 13.2% | 8.2% | 12.1% | 22.5% | 32.1% | 11.8% |
| Governance4 Students are invited to participate in school decisions that affect how learning happens.[a b] | 4.06 | 1.438 | 8.9% | 8.2% | 10.0% | 25.0% | 36.1% | 11.8% |
| Average Group Makeup Scores | 4.33 | 1.360 | 5.5% | 8.0% | 7.2% | 24.2% | 37.9% | 17.4% |
| Group1 Students in my school are often asked to be on committees that try to improve student learning. | 4.26 | 1.347 | 6.1% | 7.5% | 6.1% | 30.7% | 33.9% | 15.7% |
| Group2 I know students who are on school committees with other students and teachers.[a b] | 4.43 | 1.364 | 5.4% | 7.1% | 6.8% | 20.4% | 40.4% | 20.0% |
| Group3 At my school, students often have opportunities to talk about school issues in small groups.[b] | 4.30 | 1.369 | 5.0% | 9.3% | 8.6% | 21.4% | 39.3% | 16.4% |

| Items | *M* | *SD* | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|---|---|
| Average Recognition Scores | 4.04 | 1.523 | 11.8% | 9.5% | 8.3% | 19.9% | 34.6% | 16.0% |
| Recognition1 At school, students and teachers often celebrate accomplishments. | 4.35 | 1.469 | 7.5% | 7.1% | 8.2% | 18.2% | 37.5% | 21.4% |
| Recognition2 Student leaders at my school are formally recognized for the work they do to help the school.[a] [b] | 4.25 | 1.385 | 6.1% | 8.6% | 8.2% | 23.9% | 37.5% | 15.7% |
| Recognition3 At my school, students are given academic credit for after school leadership activities.[b] | 4.23 | 1.463 | 8.6% | 7.1% | 8.6% | 21.1% | 38.2% | 16.4% |
| Recognition4 At my school, students are sometimes paid for the work they do to help the school. | 3.33 | 1.775 | 25.0% | 15.0% | 8.2% | 16.4% | 25.0% | 10.4% |

[a]Item was retained in the Overall Student Leadership Capacity Building Scale. [b]Item was retained in a dimension-specific scale.

**Comparative analysis of leadership competencies and mechanisms by school.** To determine if there were significant differences on leadership competencies or mechanisms, school level mean scores were computed and compared using ANOVAs with Tukey post-hoc tests. The ANOVA statistics were run with the more precise regression adjusted factor scores, but as factor score means are not easily interpretable, or intuitive, the reported mean scores below are averages from Table 4.23 and Table 4.24, respectively.

Descriptive statistics for the number of participants from each school are listed in Table 4.22. Each school is named to reflect a notable feature of the school. The first three schools are labeled "ENL" to reflect the large percentages of students for whom English is a new language (ENL) in these schools. These schools are specifically designed to support ENL students. The next two schools are labeled "Transfer," which indicates these schools serve students who have been unsuccessful in other schools. Students have to be at least 16 years old and have been in high school for one year to apply to a transfer school. The last two urban schools on the list are labeled "Portfolio," indicating students at these schools graduate by presenting a portfolio of work in lieu of taking standardized tests. All of the urban schools in this study were portfolio schools, but these two schools differ from the first schools on the list, as they are not designed for a specific group of students like ENL or transfer students. This homogeneity of the urban schools is a limitation of the sample. The last two schools are rural schools and are labeled to highlight this unique feature.

Table 4.22

*Descriptive Statistics for Participants by School*

| School | Frequency | Percent |
|---|---|---|
| ENL1 | 41 | 14.6% |
| ENL2 | 13 | 4.6% |
| ENL3 | 54 | 19.3% |
| Transfer1 | 22 | 7.9% |
| Transfer2 | 33 | 11.8% |
| Portfolio1 | 6 | 2.1% |
| Portfolio2 | 23 | 8.2% |
| Rural1 | 78 | 27.9% |
| Rural2 | 10 | 3.6% |
| Total | 280 | 100.0% |

***Comparative analysis for leadership competencies.*** Rural1 students ($M$ = 3.62) scored statistically significantly lower than all of the urban schools ($M$ => 4.50) on the average critical awareness mean scores, with $F(8, 271) = 11.895$, $p = .000$. For the average inclusivity mean scores, Rural1 students ($M$ = 3.45) scored significantly lower than all urban schools ($M$ => 4.59) and Rural2 ($M$ = 3.61) scored significantly lower than every urban school except Portfolio1 ($M$ = 4.79), with $F(8, 271) = 12.804$, $p = .000$. For the average positivity mean scores, Rural1 students ($M$ = 3.35) again scored significantly lower than all urban schools ($M$ => 4.41) and Rural2 ($M$ = 3.55) scored significantly lower than most urban schools with the exception of Portfolio1 ($M$ = 4.73) and Portfolio2 ($M$ = 4.41), with $F(8, 271) = 13.989$, $p = .000$. Table 4.23 provides mean scores for each leadership competency by school.

Table 4.23

*Mean Scores of Leadership Competencies by School*

| Items | ENL1 | ENL2 | ENL3 | Transfer1 | Transfer2 | Portfolio2 | Rural1 | Rural2 |
|---|---|---|---|---|---|---|---|---|
| Average Critical Awareness Scores | 4.74 | 4.75 | 4.50 | 4.72 | 4.76 | 4.56 | 3.62 | 3.95 |
| Critical1 In my classes, I am taught to name my feelings. | 4.73 | 4.46 | 4.26 | 4.36 | 4.15 | 4.13 | 3.45 | 3.30 |
| Critical2 My teachers encourage me to ask "Why?"[a] [b] | 4.83 | 4.77 | 4.89 | 5.55 | 4.97 | 4.87 | 4.36 | 4.50 |
| Critical3 In my classes, I learn to recognize the effects of my actions on others.[b] | 4.95 | 4.69 | 4.65 | 4.59 | 4.91 | 4.91 | 4.42 | 4.60 |
| Critical4 In my classes, I am asked to identify when only one side of an argument is presented.[a] [b] | 4.71 | 4.23 | 4.04 | 4.86 | 4.61 | 4.39 | 3.87 | 4.00 |
| Critical5 My teachers teach me to challenge usual ways of thinking.[a] | 5.20 | 4.92 | 4.89 | 5.50 | 5.03 | 5.04 | 4.08 | 4.70 |
| Critical6 In my school, I am taught to see things from many points of view. | 5.24 | 4.92 | 5.07 | 5.36 | 5.27 | 4.78 | 4.40 | 4.80 |
| Critical7 I often work with others to gather information about important school issues.[b] | 4.54 | 4.92 | 4.52 | 4.32 | 4.67 | 4.70 | 3.46 | 3.50 |
| Critical8 Groups at my school talk about how much progress they have made. | 4.51 | 4.62 | 4.28 | 4.18 | 4.52 | 4.39 | 3.36 | 3.00 |
| Critical9 If I think a school policy is unfair, I work with others to try to fix it. | 4.29 | 4.69 | 3.94 | 4.00 | 4.24 | 4.22 | 3.14 | 3.50 |

| Items | ENL1 | ENL2 | ENL3 | Transfer1 | Transfer2 | Portfolio2 | Rural1 | Rural2 |
|---|---|---|---|---|---|---|---|---|
| Critical10 In group discussions, I see both students and teachers respectfully listening to critical feedback. | 5.00 | 4.85 | 5.06 | 4.91 | 4.64 | 4.70 | 3.76 | 3.70 |
| Critical11 Students are often asked what they think the school is doing well and what the school could do better.[a b] | 4.76 | 5.23 | 4.43 | 4.82 | 5.12 | 4.35 | 2.96 | 4.60 |
| Critical12 At my school, both students and teachers can ask questions and give input before school decisions are made.[a b] | 4.49 | 4.85 | 4.48 | 4.59 | 4.94 | 4.26 | 3.01 | 4.20 |
| Critical13 After a new rule or a new schedule is made, students and teachers are asked to share their reactions to the change.[a b] | 4.34 | 4.54 | 3.94 | 4.27 | 4.85 | 4.48 | 2.79 | 3.00 |
| Average Inclusivity Scores | 4.84 | 4.79 | 4.80 | 4.73 | 4.88 | 4.59 | 3.45 | 3.61 |
| Inclusivity1 At my school, I am taught to make sure all voices are heard. | 5.05 | 4.54 | 5.06 | 5.41 | 5.09 | 4.87 | 3.91 | 4.40 |
| Inclusivity2 When doing group work in class, I learn to appreciate the differences each person brings to the group. | 5.00 | 4.85 | 5.24 | 5.18 | 5.09 | 5.04 | 4.36 | 4.50 |
| Inclusivity3 During class discussions, I am taught to balance listening and speaking. | 5.07 | 5.00 | 5.19 | 5.32 | 5.00 | 5.09 | 4.15 | 4.20 |
| Inclusivity4 At my school, I learn how to work with people of different cultures and backgrounds. | 5.34 | 5.08 | 5.56 | 5.36 | 5.24 | 5.52 | 3.97 | 3.40 |

| Items | ENL1 | ENL2 | ENL3 | Transfer1 | Transfer2 | Portfolio2 | Rural1 | Rural2 |
|---|---|---|---|---|---|---|---|---|
| Inclusivity5 My teachers explain ideas in many ways so all students can learn.[b] | 5.12 | 5.23 | 5.39 | 5.23 | 5.00 | 4.61 | 3.78 | 3.80 |
| Inclusivity6 At school, when there is a conflict, we work through it respectfully.[b] | 4.78 | 4.23 | 4.83 | 4.27 | 4.70 | 4.26 | 3.28 | 3.50 |
| Inclusivity7 In school, I learn from people who think differently than me. | 4.88 | 4.46 | 5.04 | 5.09 | 4.91 | 4.78 | 4.03 | 4.50 |
| Inclusivity8 Groups at my school only make decisions when every group member can live with it.[a b] | 4.66 | 4.46 | 4.67 | 3.95 | 4.33 | 4.26 | 3.17 | 3.40 |
| Inclusivity9 Groups at my school respect the voices of all members.[b] | 4.78 | 4.92 | 5.04 | 4.73 | 4.85 | 4.70 | 3.18 | 3.30 |
| Inclusivity10 In my school, both teachers and students take time to build relationships with me.[a b] | 4.88 | 4.46 | 5.06 | 5.00 | 4.70 | 4.48 | 3.72 | 3.30 |
| Inclusivity11 At my school, I am able to work with teachers to accomplish common goals.[a] | 4.83 | 4.54 | 4.83 | 5.55 | 5.03 | 4.65 | 4.14 | 4.00 |
| Inclusivity12 At my school, students and teachers work together to create lessons.[a b] | 4.51 | 4.85 | 4.19 | 4.14 | 4.67 | 4.22 | 2.64 | 2.50 |
| Inclusivity13 In my school, there is a clear process to share information between students and teachers.[a] | 4.78 | 5.00 | 4.54 | 4.73 | 4.91 | 4.22 | 3.13 | 4.20 |
| Inclusivity14 Times and locations of school committee meetings are clearly communicated.[ab] | 4.66 | 5.00 | 4.59 | 4.73 | 4.79 | 4.65 | 3.55 | 3.60 |

| Items | ENL1 | ENL2 | ENL3 | Transfer1 | Transfer2 | Portfolio2 | Rural1 | Rural2 |
|---|---|---|---|---|---|---|---|---|
| Inclusivity15 Before making a school decision, leaders ask what all the students think about it.[a] | 4.61 | 4.46 | 4.19 | 4.00 | 4.79 | 4.43 | 2.59 | 3.40 |
| Inclusivity16 Students in my school are often asked to be on committees that try to improve student learning. | 4.56 | 5.00 | 4.69 | 4.36 | 4.79 | 4.78 | 3.32 | 3.60 |
| Inclusivity17 Students are invited to participate in school decisions that affect how learning happens.[a b] | 4.71 | 5.15 | 4.41 | 4.09 | 4.91 | 4.39 | 3.00 | 3.10 |
| Inclusivity18 At my school, teachers believe they can learn from students. | 4.83 | 4.92 | 4.80 | 4.95 | 5.06 | 4.48 | 3.40 | 2.90 |
| Inclusivity19 Students help create discipline policies for the school. | 4.73 | 4.77 | 4.30 | 3.64 | 4.82 | 3.91 | 2.41 | 2.50 |
| Inclusivity20 I know students who are on school committees with other students and teachers.[a b] | 4.98 | 5.00 | 4.63 | 4.68 | 4.97 | 4.52 | 3.56 | 4.20 |
| Inclusivity21 At my school, students often have opportunities to talk about school issues in small groups.[b] | 4.95 | 4.69 | 4.63 | 4.82 | 4.91 | 4.52 | 3.24 | 3.50 |
| Average Positivity Scores | 4.88 | 4.81 | 4.69 | 4.67 | 4.87 | 4.41 | 3.35 | 3.55 |
| Positivity1 At my school, I am taught to see a difficult assignment as a chance to learn. | 5.12 | 5.08 | 5.26 | 5.23 | 5.03 | 5.00 | 3.78 | 4.50 |
| Positivity2 At my school, I am asked to identify the strengths of others.[b] | 4.68 | 4.23 | 4.61 | 4.27 | 4.61 | 4.48 | 3.44 | 3.10 |

| Items | ENL1 | ENL2 | ENL3 | Transfer1 | Transfer2 | Portfolio2 | Rural1 | Rural2 |
|---|---|---|---|---|---|---|---|---|
| Positivity3 I am taught how to create an image of my best self in class. | 4.93 | 4.77 | 4.61 | 4.86 | 4.70 | 4.87 | 4.05 | 3.90 |
| Positivity4 I feel comfortable trying new things in my school.[b] | 5.05 | 5.54 | 4.94 | 4.91 | 4.76 | 4.70 | 3.85 | 3.70 |
| Positivity5 At my school, I am taught to recognize times when I was at my best.[b] | 5.12 | 5.00 | 4.76 | 4.77 | 4.82 | 4.96 | 4.01 | 3.80 |
| Positivity6 At my school, I am asked to think about what I can do to improve my skills. | 5.12 | 5.08 | 5.09 | 5.32 | 4.97 | 5.00 | 4.55 | 4.50 |
| Positivity7 If a school leader disagrees with my idea, we listen to and learn from each other.[b] | 4.90 | 4.85 | 4.52 | 4.77 | 4.76 | 4.70 | 3.05 | 3.30 |
| Positivity8 I usually feel supported by both students and teachers in my school. | 4.90 | 5.08 | 5.00 | 4.68 | 4.79 | 4.48 | 3.31 | 3.30 |
| Positivity9 At my school, students and teachers give more praise than criticism.[b] | 4.80 | 4.92 | 4.44 | 4.23 | 4.88 | 4.30 | 3.27 | 3.40 |
| Positivity10 At school, students and teachers often celebrate accomplishments. | 4.76 | 4.38 | 4.78 | 5.50 | 5.24 | 4.04 | 3.23 | 3.80 |
| Positivity11 In my school, students and teachers have regular opportunities to improve their leadership skills.[a b] | 5.05 | 4.85 | 4.78 | 4.50 | 4.91 | 4.43 | 3.37 | 3.40 |
| Positivity12 Students and teachers at my school attend workshops or trainings together. | 4.71 | 4.69 | 4.28 | 3.82 | 4.70 | 4.17 | 2.90 | 2.70 |

| Items | ENL1 | ENL2 | ENL3 | Transfer1 | Transfer2 | Portfolio2 | Rural1 | Rural2 |
|---|---|---|---|---|---|---|---|---|
| Positivity13 At my school, every student has a mentor with whom they have a positive relationship. | 5.10 | 5.15 | 4.98 | 5.00 | 4.79 | 4.04 | 3.32 | 3.00 |
| Positivity14 Student schedules include time for mentoring.[b] | 5.00 | 4.62 | 4.98 | 5.09 | 4.64 | 3.91 | 2.54 | 3.30 |
| Positivity15 Student leaders at my school are formally recognized for the work they do to help the school.[a b] | 4.93 | 4.77 | 4.72 | 4.68 | 4.91 | 4.00 | 3.21 | 3.90 |
| Positivity16 My school often tries new ways of doing things.[a] | 4.78 | 4.85 | 4.70 | 5.09 | 5.03 | 4.52 | 3.13 | 4.20 |
| Positivity17 At my school, students are given academic credit for after school leadership activities.[b] | 4.90 | 4.77 | 4.39 | 4.50 | 5.00 | 4.43 | 3.24 | 3.90 |
| Positivity18 At my school, students are sometimes paid for the work they do to help the school. | 3.93 | 3.92 | 3.57 | 2.82 | 5.15 | 3.43 | 2.12 | 2.20 |

[a]Item was retained in the Overall Student Leadership Capacity Building Scale. [b]Item was retained in a dimension-specific scale.

***Comparative analysis for student leadership capacity building mechanisms.*** ENL schools and Transfer schools had the highest mean scores for radical collegiality, pedagogy, relationship, and consistency. Mean scores for Rural1 and Rural2 were consistently lower than urban schools' mean scores. ENL2 and Transfer2 had the highest mean scores for research ($M$ = 4.90 and $M$ = 4.88 respectively), governance structure, ($M$ = 4.73 and $M$ = 4.74 respectively), and group makeup, ($M$ = 4.90 and $M$ = 4.89 respectively). Transfer2 had the highest mean score for recognition ($M$ = 5.08). Table 4.24 provides mean scores for each mechanism by school.

Significant differences were found for all mechanisms, primarily between the rural and urban schools. On radical collegiality, mean scores for Rural1 ($M$ = 3.45) and Rural2 ($M$ = 3.32) were significantly lower than all urban schools ($M$ => 4.54), with $F(8, 271) = 15.223$, $p = .000$. Pedagogy reflected the same differences in schools, with $F(8, 271) = 16.983$, $p = .000$. Rural1's mean score for research ($M$ = 3.07) was significantly lower than all urban schools ($M$ => 4.30) and Rural2's research score ($M$ =3.70) was lower than Transfer2 ($M$ = 4.88), with $F(8, 271) = 16.981$, $p = .000$. On the relationship mechanism, Rural1 ($M$ = 3.45) scored significantly lower than the urban schools, ($M$ => 4.33) and Rural2 ($M$ = 3.20) scored lower than all urban schools except Portfolio2 ($M$ = 4.33), with $F(8, 271) = 16.560$, $p = .000$. On consistency, Rural1 ($M$ = 3.07) scored significantly lower than urban schools ($M$ => 4.26), with $F(8, 271) = 18.298$, $p = .000$. For governance structure, Rural1 ($M$ = 2.94) scored significantly lower than all urban schools ($M$ => 4.16), and Rural2 ($M$ = 3.53) scored significantly lower than Transfer2 ($M$ = 4.74), with $F(8, 271) = 17.395$, $p = .000$. On group makeup, Rural1 ($M$ = 3.37) scored significantly lower than all urban schools ($M$ => 4.61), and Rural2 ($M$ = 3.77) scored significantly lower than Transfer2 ($M$ = 4.89), with $F(8, 271) = 14.083$, $p = .000$. On

Table 4.24

*Mean Scores of Student Voice Mechanisms by School*

| Items | ENL1 | ENL2 | ENL3 | Transfer1 | Transfer2 | Portfolio2 | Rural1 | Rural2 |
|---|---|---|---|---|---|---|---|---|
| Average RadicalCollegiality Scores | 4.85 | 4.77 | 4.70 | 4.80 | 4.84 | 4.54 | 3.45 | 3.32 |
| RadicalCollegiality1 In group discussions, I see both students and teachers respectfully listening to critical feedback. | 5.00 | 4.85 | 5.06 | 4.91 | 4.64 | 4.70 | 3.76 | 3.70 |
| RadicalCollegiality2 At my school, I am able to work with teachers to accomplish common goals.[a] | 4.83 | 4.54 | 4.83 | 5.55 | 5.03 | 4.65 | 4.14 | 4.00 |
| RadicalCollegiality3 If a school leader disagrees with my idea, we listen to and learn from each other.[b] | 4.90 | 4.85 | 4.52 | 4.77 | 4.76 | 4.70 | 3.05 | 3.30 |
| RadicalCollegiality4 At my school, teachers believe they can learn from students. | 4.83 | 4.92 | 4.80 | 4.95 | 5.06 | 4.48 | 3.40 | 2.90 |
| RadicalCollegiality5 Students and teachers at my school attend workshops or trainings together. | 4.71 | 4.69 | 4.28 | 3.82 | 4.70 | 4.17 | 2.90 | 2.70 |
| Average Pedagogy Scores | 4.90 | 5.03 | 4.92 | 4.90 | 4.89 | 4.64 | 3.52 | 3.50 |
| Pedagogy1 During class discussions, I am taught to balance listening and speaking. | 5.07 | 5.00 | 5.19 | 5.32 | 5.00 | 5.09 | 4.15 | 4.20 |
| Pedagogy2 My teachers explain ideas in many ways so all students can learn.[b] | 5.12 | 5.23 | 5.39 | 5.23 | 5.00 | 4.61 | 3.78 | 3.80 |

| Items | ENL1 | ENL2 | ENL3 | Transfer1 | Transfer2 | Portfolio2 | Rural1 | Rural2 |
|---|---|---|---|---|---|---|---|---|
| Pedagogy3 At my school, students and teachers work together to create lessons.[a b] | 4.51 | 4.85 | 4.19 | 4.14 | 4.67 | 4.22 | 2.64 | 2.50 |
| Average Research Scores | 4.55 | 4.90 | 4.30 | 4.47 | 4.88 | 4.51 | 3.07 | 3.70 |
| Research1 I often work with others to gather information about important school issues.[b] | 4.54 | 4.92 | 4.52 | 4.32 | 4.67 | 4.70 | 3.46 | 3.50 |
| Research2 Students are often asked what they think the school is doing well and what the school could do better.[a b] | 4.76 | 5.23 | 4.43 | 4.82 | 5.12 | 4.35 | 2.96 | 4.60 |
| Research3 After a new rule or a new schedule is made, students and teachers are asked to share their reactions to the change.[a b] | 4.34 | 4.54 | 3.94 | 4.27 | 4.85 | 4.48 | 2.79 | 3.00 |
| Average Relationship Scores | 4.96 | 4.90 | 5.01 | 4.89 | 4.76 | 4.33 | 3.45 | 3.20 |
| Relationship1 In my school, both teachers and students take time to build relationships with me.[a b] | 4.88 | 4.46 | 5.06 | 5.00 | 4.70 | 4.48 | 3.72 | 3.30 |
| Relationship2 I usually feel supported by both students and teachers in my school. | 4.90 | 5.08 | 5.00 | 4.68 | 4.79 | 4.48 | 3.31 | 3.30 |
| Relationship3 At my school, every student has a mentor with whom they have a positive relationship. | 5.10 | 5.15 | 4.98 | 5.00 | 4.79 | 4.04 | 3.32 | 3.00 |
| Average Consistency Scores | 4.81 | 4.87 | 4.70 | 4.85 | 4.78 | 4.26 | 3.07 | 3.70 |

| Items | ENL1 | ENL2 | ENL3 | Transfer1 | Transfer2 | Portfolio2 | Rural1 | Rural2 |
|---|---|---|---|---|---|---|---|---|
| Consistency1 In my school, there is a clear process to share information between students and teachers.[a] | 4.78 | 5.00 | 4.54 | 4.73 | 4.91 | 4.22 | 3.13 | 4.20 |
| Consistency2 Times and locations of school committee meetings are clearly communicated.[a b] | 4.66 | 5.00 | 4.59 | 4.73 | 4.79 | 4.65 | 3.55 | 3.60 |
| Consistency3 Student schedules include time for mentoring.[b] | 5.00 | 4.62 | 4.98 | 5.09 | 4.64 | 3.91 | 2.54 | 3.30 |
| Average Governance Structures Scores | 4.62 | 4.73 | 4.44 | 4.16 | 4.74 | 4.34 | 2.94 | 3.53 |
| Governance1 Groups at my school only make decisions when every group member can live with it.[a b] | 4.66 | 4.46 | 4.67 | 3.95 | 4.33 | 4.26 | 3.17 | 3.40 |
| Governance2 At my school, both students and teachers can ask questions and give input before school decisions are made.[a b] | 4.49 | 4.85 | 4.48 | 4.59 | 4.94 | 4.26 | 3.01 | 4.20 |
| Governance3 Before making a school decision, leaders ask what all the students think about it.[a] | 4.61 | 4.46 | 4.19 | 4.00 | 4.79 | 4.43 | 2.59 | 3.40 |
| Governance4 Students are invited to participate in school decisions that affect how learning happens.[a b] | 4.71 | 5.15 | 4.41 | 4.09 | 4.91 | 4.39 | 3.00 | 3.10 |
| Average Group Makeup Scores | 4.83 | 4.90 | 4.65 | 4.62 | 4.89 | 4.61 | 3.37 | 3.77 |
| Group1 Students in my school are often asked to be on committees that try to improve student learning. | 4.56 | 5.00 | 4.69 | 4.36 | 4.79 | 4.78 | 3.32 | 3.60 |

| Items | ENL1 | ENL2 | ENL3 | Transfer1 | Transfer2 | Portfolio2 | Rural1 | Rural2 |
|---|---|---|---|---|---|---|---|---|
| Group2 I know students who are on school committees with other students and teachers.[a b] | 4.98 | 5.00 | 4.63 | 4.68 | 4.97 | 4.52 | 3.56 | 4.20 |
| Group3 At my school, students often have opportunities to talk about school issues in small groups.[b] | 4.95 | 4.69 | 4.63 | 4.82 | 4.91 | 4.52 | 3.24 | 3.50 |
| Average Recognition Scores | 4.63 | 4.46 | 4.37 | 4.38 | 5.08 | 3.98 | 2.95 | 3.45 |
| Recognition1 At school, students and teachers often celebrate accomplishments. | 4.76 | 4.38 | 4.78 | 5.50 | 5.24 | 4.04 | 3.23 | 3.80 |
| Recognition2 Student leaders at my school are formally recognized for the work they do to help the school.[a b] | 4.93 | 4.77 | 4.72 | 4.68 | 4.91 | 4.00 | 3.21 | 3.90 |
| Recognition3 At my school, students are given academic credit for after school leadership activities.[b] | 4.90 | 4.77 | 4.39 | 4.50 | 5.00 | 4.43 | 3.24 | 3.90 |
| Recognition4 At my school, students are sometimes paid for the work they do to help the school. | 3.93 | 3.92 | 3.57 | 2.82 | 5.15 | 3.43 | 2.12 | 2.20 |

*Note.* Portfolio1 was omitted due to small sample size of 6.
[a]Item was retained in the Overall Student Leadership Capacity Building Scale. [b]Item was retained in a dimension-specific scale.

recognition, Rural1 ($M$ = 2.95) scored significantly lower than urban schools ($M$ => 4.37), Rural2 ($M$ = 3.45) scored lower than ENL1 ($M$ = 4.63), Transfer2 ($M$ = 5.08), and Portfolio2 ($M$ = 3.98) scored lower than Transfer2 ($M$ = 5.08).

**Phase 2**

Phase 2 of this study aimed to address Research Questions 5 and 6: How do school results of the scales align with school stakeholders' perceptions? and How do schools plan to use this information to further develop student leadership capacity? In this section, qualitative data from the open-ended questions on the student survey (i.e., "If you have any specific examples or comments about learning leadership skills you would like to share, please type them here," "If you have any specific examples or comments about working with others on school issues you would like to share, please type them here," and "If you have any specific examples or comments about school culture and structures you would like to share, please type them here,") are combined with qualitative data collected from follow-up interviews and focus groups. Qualitative data were collected from students and teachers from two of the nine schools that participated in Phase 1. ENL1 had ten staff members participate in a focus group. This included nine teachers as well as the principal. ENL1 also had three students participate in a student focus group. One teacher from Transfer2 participated in a phone interview. Written consent was obtained, and participants were given Table 4.24 with all of the schools' mean scores on mechanism items. The participants' school was highlighted. The response scale was explained to participants: 1 (*strongly disagree*), 2 (*disagree*), 3 (*somewhat disagree*), 4 (*somewhat agree*), 5 (*agree*), and 6 (*strongly agree*). Participants responded to four questions:

- What are your thoughts about these results?

- How useful is this information to your work? (Participants were encouraged to think about specific mechanisms their schools had in place and/or how they planned to use the results.)
- How could the survey or report of results be improved?
- What are your thoughts about the underlying leadership competencies of critical awareness, inclusivity, and positivity?

Sessions were approximately 45 minutes. Notes from the qualitative sessions were transcribed, and themes that repeated within and across discussions were identified. Then, phrases reflecting common themes were highlighted in the transcript. This section organizes the identified themes by the research question they best address. In addition to qualitative data from two focus groups and one interview, several of the 107 narrative responses from the survey were also used to address Research Question 5 and Research Question 6 below.

**Research Question 5**

Research Question 5 asks: How do school results of the scales align with school stakeholders' perceptions? All three groups agreed the results were what they expected. In addition to sharing that the results reflect students' feelings about the school, the teacher from Transfer2 stated, "The results accurately reflect the goals of our school." While there was generally agreement on the face validity of the results, there were some items participants identified as being too high or too low. A teacher at ENL1 expressed surprise at the high score for students being paid. Other teachers responded by sharing information about the different programs associated with the school that pay students. Not all teachers were aware of such programs in the building. In the student focus group at the same school, ENL1, one student believed the school's score for balancing listening and speaking was low, as "we do this a lot."

The teacher from Transfer2 noted that despite the unique challenges of the school, he expected the relationships score to be higher, as that is a priority for the staff in the school.

**Relationships.** All three groups talked about the importance of relationships between students and teachers. ENL1 students gave examples of teachers helping students when they struggle in school, saying, "They don't just let them fail." Students also shared an example of a teacher who told her class that she learned a lot from them this year that she "didn't know before." Students' relationships with teachers was the first thing ENL1 teachers noticed in the data. One teacher pointed out the school does much better than her school growing up, which was a "rigid hierarchy." Another teacher pointed out the mentoring scores were high, but the school's official mentoring program is only for seniors, thus younger students must be seeing their teachers as mentors. The teacher from Transfer2 discussed student-teacher relationships at length. He emphasized the importance of building relationships in spite of, and in fact, because of the type of school it is. Transfer2 is a transfer school, so students are not in the school for the traditional four years. He says, building relationships with students "is important to the staff" and is part of the school's mission and vision statements.

Student responses to the open-ended questions of the survey highlighted many thoughts about student-teacher relationships. Students from ENL3 talked the most about this. One student wrote, "At our school, our teachers appreciate our hard work." Another said, "freshman year, I can not speak English language so teachers stay after school to [teach me] more about that lesson. Now I can communicate with them." One student discusses the importance of teacher and peer support through the process of learning a new language, stating, "When I was in this school for the first time I was so scared to talk to others but slowly because of my friends and teachers support I learned how to communicate with others and help others when they need

help." Another ENL3 student shared, "When a teacher sees someone is unhappy or upset, they go up to them and have a confidential conversation about what's troubling [them]."

Students from both rural schools named specific teachers with whom students had positive relationships. Referring to a particular teacher, a student from Rural2 wrote,

> In [his] classes, I feel like that we can be very open and honest…[he] makes a personal relationship with every student that walks into his classroom. It is very comforting to know that a teacher has such a connection with his students.

Students from Rural1 also referred to specific teachers with whom they had positive relationships. One student said, "There are nice teacher[s] who actually care about what happens to us when we get out of school." Alluding to the absence of positive relationships with teachers, another Rural1 student said of a particular teacher, "[She] is one of the only teachers I trust." Another student added, "Teachers don't always care about you."

**School design.** Another theme that arose in the two teacher discussions was that the scores were likely impacted by the kinds of schools students attend. As a transfer school, Transfer2 has unique challenges other schools do not when it comes to building community. "It does take time. We are a transfer school, so sometimes our students have been in two or three other schools. It's about building trust," the teacher said. Many transfer students have had difficult experiences in their previous schools. "When students get to us, they have been told what they cannot do, that it's their fault they have been unsuccessful. We need to change their mindset," he shared. These challenges, while not isolated to transfer schools, make it more difficult and also more important to build trust. This teacher also suggested identifying schools in the study as transfer schools or 9–12 schools that organize classes by grade because "they will have different results." Originally, schools were labeled ENL, Portfolio, or Rural. Following this participant's suggestion, the names were adjusted throughout the dissertation to specifically

label Transfer schools. He explained that students in his classes are from ninth through twelfth grade, "how they relate and interact" is different from students in a typical school where they learn about the school over time and "become part of the community." ENL1 noted the school's high score on teachers explaining ideas in many ways is a reflection of our school's design and corresponding principles, which are intended to support students who are new to English. ENL1 teachers also wondered if the rural schools' mean scores were lower because they were more homogenous, noting their school is incredibly diverse, with approximately 50 countries represented. The Transfer2 teacher also pointed out the importance of diversity at his school. In the survey, ENL2 students referenced the diversity of their school, as they shared they have activities where students "have the chance to learn from different cultures and backgrounds." Another student expresses the importance of students' identities in ENL2, sharing the school helps students build skills to "speak up and identify who you are."

**Conceptions of student leadership.** Everyone seemed to have a different idea of what student leadership is. Traditional notions of tokenistic student leadership came up during the discussions. The principal of ENL1 pointed out this line of thinking by referencing the school's leadership outcome, on which students are graded. "What does the leadership outcome mean to us? What does it look like? Is it just being the iPad manager?" she asked. Students from ENL1 discussed what makes a strong leader at length. One student insisted critical awareness is the most important skill of a leader, noting, "People are usually aware of how they feel, but are not aware of society. That's true here when people talk about the LGBT community. They don't think about how others feel." The other two students thought positivity was the most important. One student explained, "Positivity leads to the other two. No one wants a leader who gives up right away." The student who believed in the importance of critical awareness added the ability

to be fair and balanced is also important in a leader. On the wall, next to the students, were a list of the Values in Action, a list of positive leadership attributes. The students commented this was a helpful list to draw from when thinking about leadership. They all agreed the skill of collaboration was important for leaders. One student said a good leader is "stronger with others." Another replied, "I would use the word 'union.' It's about cooperating with others and leadership that is beneficial to others."

A student from Transfer1 who responded in a comment box on the survey shared, "You can't learn to be a leader, you're born one." A student from Rural1 expressed a negative reaction towards the idea of leadership, stating, "Leadership sucks and I don't want to be one." Students in the survey talked a lot about student leadership in the context of group work. ENL1 and ENL3 students spoke of the prevalence of group work and positive experiences they have had while working in groups. An ENL3 student noted, "We have groups in every class." Another student shared, "Collaboration and communication ha become key points in my life because of my experiences with it at school." One ENL3 student talked about the personal benefits of working in groups, stating, "Teachers somewhat help us to develop our leadership skills by telling us to help others on translating or being a tutor for those who need help. You become stronger when you start to…help others." This notion of group work as a means of personal skill development was echoed in an ENL1 student's comment, "We always have group work and presentations. It helps a lot with public speaking, communicating clearly and confidently." Another ENL1 student talked about helping classmates as leadership when sharing, the teacher "asked me along with some other students in my class to be the coach for my classmates in helping them do their PBAT [Portfolio Based Assessment Task]." Students from Rural1 seemed

to have more negative experiences with group work, stating, “Don’t work with others,” and “I wish teachers would put students in groups with people who they can get along with.”

Regardless of the specific definition of leadership teachers subscribed to, teachers were able to share examples of student leadership. ENL1 teachers shared examples of leadership by students who were not typically thought of as leaders. One teacher said, “The best leaders are not always the students who do the best academically. They are students who use their energy for good.” She proceeded to share that a student who has been struggling academically developed and facilitated a circle discussion for an extension to his portfolio project. Another teacher shared that her mentee also had an impressive project extension. “He taught two full classes by himself!” Another teacher said she recognized the importance of leadership activities for a student in her class who improved when he was involved with student government, but as soon as he stopped coming, his academic progress declined as well. A teacher who had the same student last year noted leading circles and participating in restorative justice club helped him in class last year as well.

**Highlighting existing practices.** ENL1 has strong community partnerships, which was another mechanism identified in the literature review, but was not explicitly included in the scale items. Specifically, teachers pointed to connections with YMCA, Mouse Squad (an after school program in which students are trained to repair computers), a restorative justice-focused community organization that trained students to design and lead circle discussions, and the network of ENL schools that offer teachers professional development around student-centered learning and employment opportunities for students. ENL1 students also referenced the extensive amount of after school clubs in which students build communication skills necessary for leadership.

On the survey, a student from ENL1 shared, “I really like how our school always has volunteering work, clubs, and portfolios.” Another student shared some of the organizations present in Transfer2. “We have peer mediation, and we also have a restorative justice group,” the student wrote. Rural1 students also have many extracurriucular opportunities, which include FFA (Future Farmers of America) and FBLA (Future Business Leaders of America), and BOCES (a job training program). One student shared, “I go to future soldiers and we learn to work as a unit and…lead with our strengths.”

A defining feature of Transfer2 is “Crew.” When students enter the school, they are thoughtfully assigned a Crew, which consists of 15-17 students and an adult. Crews meet four times a week in cycles. On Day 1 there are circle discussions. Day 2 provides academic support. Day 3 focuses on community building, and Day 4 is playing games and relaxing. Once a week, crews meet with other crews in a town hall. In ENL1, the school has an official mentoring program for seniors whereby each teacher meets for one hour each week with approximately three students through their senior year. The mentor also sits in on their mentees’ portfolio presentations as an advocate.

Who sits on school governance boards and how decision-making happens reflect the degree of inclusive leadership in a school. In ENL1, members of student government started attending school leadership meetings this year. The leadership team at ENL1 is made up of seven teachers, a counselor, the principal, and now, a student representative. ENL1 students noted they are often asked their opinions about things in the school, as they “take lots of surveys.” In Transfer2, school decisions are made based on consensus. Additionally, this school’s core values have a clear focus on inclusivity. Three of the seven values are: respect for

humanity, respect for diversity, and commitment to democracy. The teacher from Transfer2 added incoming students are made aware, "there is zero tolerance for intolerance" at the school.

Qualitative data from the open-ended questions of the survey also highlight specific practices of schools. One student from Transfer2 shared teachers "ask[ed] us what we would like to focus on for a class PBAT, and I offered to question systems from political to economic to prison systems. Good enough, that topic was made into a class." One student shared Transfer2 has "Attendance and Honor Roll Shoutout," which aligns with the Transfer2 teacher's comment, "We go out of our way to celebrate accomplishments of students." Another student from Transfer2 said, we took "surveys to determine policy regarding cellphone use." An ENL1 student said,

> I am part of the student government in my school and therefore, we talk a lot about the issues the school is facing and how we can improve out school. Recently our student government even created an email where students from this school can send any questions, concerns or comments on how we can improve the school.

A student from ENL2 also mentioned participating in student government. The Rural2 students also talked about ways students help improve the school, stating, "We had a whole school meeting and we all [were] participating in ways to make the school safer a couple months back. I'm assuming we are going to have another one soon, if not next year." A Rural1 student also mentioned school-wide assemblies, although at this school, the school event focused on bullying.

**Summary of research question 5.** Students and teachers in Phase 2 reported their perceptions of the school were aligned to the survey results. Participants in both the two focus groups, one interview, and student comments from the survey discussed several key themes with regards to the scale items and more broadly, to building capacity for student leadership. Relationships were highlighted as central to student success at schools. Participants shared diverse school models (i.e., transfer, ENL) as well as the makeup of a school's student body

likely impact how students respond to the scale items. There were various conceptions of student leadership discussed, highlighting the need for further clarity in schools around the question, "What does leadership mean to us?" Finally, youth and adults could point to the existence of specific practices in their schools that connected to scale items.

**Research Question 6**

How do schools plan to use this information to further develop student leadership capacity? Responding to this question requires reflection. Each group emphasized the importance of reflection. The term "reflect" came up seven times across the three conversations. Several participants used the term. In speaking about how the school works to build relationships with students, the teacher from Transfer2 said, "teachers at our school reflect on our practices." This teacher also shared a moment in his classroom in which a student offered critical feedback. He said, "I had to go back and reflect on that." The ENL1 students shared, at the end of our conversation, "Reflecting on this topic is good. I think everyone in this room wants to be a leader." The same student recommended teachers discuss the survey items with students "so we can reflect on them." The principal of ENL1 exemplified critical reflection when she said, "We don't do enough…To take it to the next level, the adults need to intervene."

**Suggested new practices.** The teachers demonstrated a strong desire to improve their student leadership capacity building efforts. After noticing Transfer2's high scores, an ENL1 teacher asked, "Are there practices you could tell us Transfer2 does that would help us improve?" The majority of ENL1's discussion was centered on suggestions for improvement. During the last minute of ENL1's focus group, one teacher said, "Let's choose three things to implement next year," and teachers signed up to lead three of the brainstormed initiatives.

The principal of ENL1 emphasized the adults' roles in fostering student leadership. She explained, "It requires an intentional effort to put students in those leadership roles. Maybe we need to raise awareness in the adult community." A teacher responded by referring to the student who taught two classes for his project extension, "He is a great leader because we put him in that role. We asked him to lead, and he can." Another teacher said, "We need different opportunities for student leadership." One person, who is our network liaison and meets with other ENL schools to organize school-to-school visits, suggested making student leadership the focus topic for the next visit the school hosts. "I would love to get six students to help run the intervisitation next year," she said excitedly.

As the majority of participants in this study are students in portfolio schools, the suggestions of ENL1 teachers regarding student leadership in portfolios are salient. In addition to highlighting the students who led class discussions for their portfolio projects, ENL1 teachers pointed out the opportunities to raise scores on RadicalCollegiality items like establishing common goals and listening to and learning from each other. One teacher emphasized this could occur "throughout the portfolio process with revisions and student extensions [of class projects]."

Several other suggestions stemmed from the celebrating accomplishments item as well as a discussion about positive leadership. ENL1 teachers discussed the importance of "visuals" around the school to display the faces of student leaders and promote school spirit for sports teams and after school group events. Discussing the images that have recently been posted on the hallway TVs, one teacher shared, "I think either our field day or cluster competition should be at the start of the year to build camaraderie." Teachers were visibly energized while continuing to offer suggestions like, "Maybe students can have their own TV! It could be

managed by Student Government. A student could control what goes on the TV." One teacher said,

> I know this survey is about students, but what about teacher recognition? We could post visuals on the TVs to recognize teachers so students can be proud of their teachers too. When we have done that this year, it has been great. Students who are not in those teachers classes congratulated teachers on graduating from graduate school or planning Culture Day.

One teacher exclaimed, "We could have a student of the week!" Another teacher said, "We should have a weekly newsletter to share positive news via email. We could do shout outs to teachers and students." By the end of the meeting, the two teachers had offered to lead the newsletter initiative. Additionally, the mastery-based grading committee took on the task of revising the school-wide leadership outcomes.

ENL1 students spoke about the importance of surveys, stating, "It's about sharing your opinions and making your voice heard." They suggested making participation in surveys part of the students' leadership or professionalism grades so more students would be respond to the surveys and those that did could be rewarded for contributing their ideas. An ENL1 teacher also made a related suggestion that teachers could regularly collect student feedback when "implementing new ideas in the classroom" to better understand the "impact on students."

The teacher from Transfer2 discussed the importance of transparency surrounding the way decisions are made in the school. He explained, "Looking at the governance scores, students may not recognize our school government operates on consensus. We have to provide students with more information about how we make decisions." With this quote, he also offers a reminder that these scores are based on the perceptions of students, not the actual structures and processes in a school. Thus, to him, the change that needs to be made is not how decisions are made, but how students are informed about the decision-making process.

**Barriers.** While the participants in Phase 2 were eager to improve the way student leadership was nourished in their schools, all three groups also addressed barriers they have faced while trying to build student leadership. The biggest challenge facing Transfer2 is the nature of their school, being a transfer school, makes it difficult to foster community and build strong relationships with students. Some students come to the school for just a couple credits they need to graduate. Those students "are not coming here to be part of a community," the teacher explained. However, although it may not be "a priority for them, it's important to the staff," he says.

ENL1 teachers raised several barriers. One teacher said it's difficult to find the time to gather student ideas because, "teachers are often bogged down with all of the daily stuff" going on. But she emphasized, "it's worth taking the time." Some teachers shared they have been frustrated when students are given leadership opportunities, but "they disappoint us as leaders." The same teacher then suggested a solution could be to give them more opportunities to lead. This group talked a lot about positivity. After one teacher said, "As teachers, it's important to focus on the positive," another referenced the school's Sunshine Committee whose purpose is to hold fun events for staff. One teacher jokingly put his arm around the principal and said, "Laughter is helpful in dealing with the pain of teaching." A chorus of laughter followed. It was evident from the amount of laughter throughout the session that humor is a staple of ENL1's school culture.

ENL1 students talked a lot about students who do not take leadership responsibilities seriously as being a barrier to more student leaders in the school. One student said, "When people see a survey, they don't take it seriously. It makes the data inaccurate." She referenced the way survey data was collected for this study. "You can't just hand out a card and ask them to

take it. I watched some students just answer negatively for all of the questions." Then, students posed solutions like asking teachers to facilitate a discussion about the items with students before they take the survey or offering to increase students' leadership grades when they give their opinions on surveys. Referring to working with teachers, students expressed frustration with students who do not put effort into building relationships with teachers, saying "It's not really about the policy; it's just about the students." One student talked about the responsibility of having individual iPads, which the students are given at the start of the year. She explained students violated their iPad contracts, which she saw many people throw out as soon as they received them. "Now there are no more iPads in the hallways I guess because students were given too many opportunities and they took advantage of it," she said.

On the survey, one student from Transfer1 mentioned a similar issue, stating, "Not all students are respectful and attentive." One Rural2 student expressed frustration with teachers being "overbearing with trying to make big questions out of small ones." Rural1 discussed far more barriers than the other schools, and most were centered on teacher behavior. The primary concern seemed to be that students felt they were treated "like little kids." One student writes, "I feel it would be better for kids to learn leadership skills if teachers didn't baby the kids so much. If the kids can have their own space to think." Another student shared, "Our opinions don't matter to the facility members as we are seen as just children." Another Rural1 student expressed the same sentiment by saying, "There are so many teachers that don't care about the voice students have. It is either the teachers way or you get a zero."

**Summary of research question 6.** In addressing how schools can use this information to develop student leadership capacity, students and teachers in the focus groups and the interview modeled thoughtful reflection. Several creative suggestions for improvement to

existing practices or the development of new practices were shared. Students and teachers also discussed the barriers of enabling student leadership in schools, which included teachers' mindsets towards students as leaders and student accountability. Some strategies for overcoming barriers to student leadership were mentioned, but there appears to be a desire for more support in this area.

**Chapter IV Summary**

The development of a scale to measure how schools build student leadership capacity involved a two-phase mixed methods study design. In Phase 1, survey questions and items were developed to measure personal, interpersonal, and organizational student leadership capacity building. The total sample used for analysis was 280 students from nine schools. PCA and CFA were run on the items, and one overall and three dimension-specific (personal, interpersonal, and organizational) scales were identified and validated with acceptable goodness of fit indices.

The Personal Student Leadership Capacity Building Scale has two factors and a total of six items, good model fit, but low discriminant validity. The Interpersonal Student Leadership Capacity Building Scale has one factor with eight items, acceptable model fit, and strong validity and reliability scores. The Organizational Student Leadership Capacity Building Scale has one factor with twelve items, good model fit, and strong validity and reliability. These three scales are highly correlated with one another. Thus, a scale addressing the overarching student leadership development capacity building construct was developed. This Overall Student Leadership Capacity Building Scale has 18 items and three factors: RadicalCollegiality, PersonalCriticalAwareness, and Organizational capacity building. The scale has strong model fit, and while AVE is a bit low, model fit is still acceptable. Both the overarching scale as well

as the set of three dimension-specific scales retain items reflecting all three theorized leadership competencies and all eight student voice mechanisms.

T-tests, ANOVAs, and metric invariance testing was conducted to evaluate if particular demographics significantly impacted how students responded to the items. Results indicated scores significantly differed by students' year in school, and the urbanicity of the school. Although metric invariance tests could not be conducted on students who worked 9–18 or more than 18 hours, ANOVA results suggest there was a significant difference between these groups as well.

Descriptive statistics were reported for all initial items intended to reflect student leadership competencies and mechanisms. For the total sample, mean scores for the three student leadership competencies, critical awareness, inclusivity, and positivity, were nearly identical. The pedagogy and relationship mechanisms had the highest mean scores, while the mechanisms of research, recognition, and governance structure had the lowest mean scores in the sample. To determine if there were significant differences by school, school level mean scores were computed and compared using ANOVAs with Tukey post-hoc tests. Rural schools' mean scores were significantly lower than urban schools across the three student leadership competencies and the eight student leadership mechanisms.

In Phase 2, 14 students and teachers from two schools participated in focus groups or interviews. Common themes identified in the qualitative data included: relationships, school design, conceptions of student leadership, highlighting existing leadership building opportunities, the importance of reflection, suggested best practices, and barriers. The following chapter discusses the implications of these findings for future research and suggests applications to practice.

# Chapter V: Discussion

Providing students with meaningful opportunities to lead and investing time and resources to support students to be able to step into those roles and lead well is not a mission of the traditional educational system. Many educators are hesitant to share power with students, as it contradicts the image of students sitting quietly as the teacher lectures. Educators are now realizing that many students are not able to learn from this old style of teaching. There has been a shift towards student-centered learning, but what does that really mean? Often, this looks like giving students choice between two essay topics. We can do better.

Recently, the United States has seen several nationwide, student-led protests advocate for better gun legislation. Watching high school students lead thoughtful conversations around gun violence and the need for reform on national television has seemed to expand many youth and adults' ideas of what student leadership can look like. The potential impacts of student leadership carry beyond the classroom and beyond the school. As schools become aware of the importance of student leadership, the next step is identifying how they can build student leadership capacity. This dissertation contributes to that discussion.

The purpose of this study was to develop and validate scales that measured the personal, interpersonal, and organizational supports high schools provide for students to build capacity for leadership. In Phase 1 of the study, students from nine schools responded to 52 potential scale items. Exploratory and confirmatory factor analyses were conducted using 280 cases. Multiple models were tested for model fit, reliability, and validity. The final scales were also tested to determine if students' responses significantly differed based on various demographics. Mean scores on student leadership competencies and mechanisms were also calculated and compared for significant differences by school. In Phase 2, three students and eleven teachers across two

schools participated in a focus group or interview. Themes were identified and discussed using qualitative data from the focus groups and from students' qualitative responses to open-ended questions on the survey.

This chapter first summarizes key findings and explains a revised conceptual model, integrating study data with existing student leadership and voice research. Using both original and existing research, linkages between student leadership capacity building dimensions and mechanisms are discussed, as are leadership competencies. Limitations of the research, implications for educational practice, and suggestions for future research are also discussed.

**Summary of Key Findings**

This dissertation aimed to develop and validate three dimension-specific scales intended to measure personal, interpersonal, and organizational student leadership capacity building. After collecting data from students across nine high schools, 280 cases were analyzed via factor analysis. The results of factor analysis provided two approaches to measuring how high schools build student leadership capacity. One option that emerged was a set of three dimension-specific scales: the Personal, Interpersonal, and Organizational Student Leadership Capacity Building Scales. Another measurement option was one overarching scale: the Overall Student Leadership Capacity Building Scale. Aside from slightly low discriminant validity between the two factors in the Personal Student Leadership Capacity Building Scale, all of the scales have good model fit. T-tests, ANOVAs with Tukey's post-hoc tests, and metric invariance testing indicated significant differences on some scales with urban schools having higher mean scores than rural schools and upperclassmen having higher mean scores than ninth grade students.

Using all initial items, mean scores for leadership competencies and student leadership mechanisms were calculated. All leadership competencies, critical awareness, inclusivity, and

positivity, had similar overall mean scores. The highest mean scores for student leadership mechanisms were pedagogy and relationship, while the lowest were research, recognition, and governance structure, suggesting students had more experience with pedagogy and relationship than the research, recognition, and governance structure mechanisms. All three leadership competencies and all eight student leadership mechanisms were represented in both the Overall scale and across the three dimension-specific scales.

Research Questions 5 and 6 were addressed using qualitative data from two focus groups and one interview as well as student comments on the survey. Participants stated the scale results reflected their perceptions. Participants agreed all three competencies were important for student leadership. They also suggested the presence of mechanisms may be impacted by school type and student populations, and thus comparative reports of school data should reflect these differences. Teachers in the focus groups emphasized the importance of reflecting on existing practices, in order to improve supports for building capacity for student leadership.

**Building Student Leadership Capacity Model**

Mitchell and Sackney (2011) posited there are three dimensions of capacity building: personal, interpersonal, and organizational. They state, "Boundaries between capacities are permeable and borders are expandable. At times, circumstances will position one domain ahead of the others…at other times, the three capacities will nest within one another, and it will be difficult to tell them apart," (p. 15). Consistent with these permeable borders, and although the initial aim of the study was to develop three separate dimension-specific scales, correlational analysis indicated the Personal, Interpersonal, and Organizational Capacity Building Scales were highly correlated. Mitchell and Sackney (2011) also pointed out that "circumstances will position one domain ahead of the others," implying there are times when educators may want to

focus on building capacity for one of the dimensions. In such a case, administering one of the separate scales, Personal, Interpersonal, or Organizational Student Leadership Capacity Building Scales, would be ideal. Throughout this chapter, themes identified in both the Overall Student Leadership Capacity Building Scale, and the separate, Personal, Interpersonal, or Organizational Student Leadership Capacity Building Scales, will be discussed.

**Mitra's student voice pyramid.** Mean scores were calculated for items representing each capacity building dimension by averaging responses to all initial items in each proposed personal, interpersonal, and organizational dimension. Mean scores of the respective constructs mirror the prevalence of the bottom, middle, and top levels of Mitra's (2006) pyramid. Results indicated personal capacity building ($M = 4.66$) was perceived as being present more than interpersonal capacity building ($M = 4.27$) and both were more prevalent than organizational ($M = 4.14$) capacity building for student leadership. These findings follow the same logic as Mitra's explanation for why some student voice practices are more common in educational settings than others.

Mitra stated that the most common level of the pyramid is listening to students. ENL1 students "take lots of surveys" and Transfer2 students take "surveys to determine policy regarding cellphone use." However, survey data suggests this is not true for everyone. Almost one-fourth of the respondents disagreed or strongly disagreed with statements such as, "Before making a school decision, leaders ask what all the students think about it," (21.4%) and "After a new rule or a new schedule is made, students and teachers are asked to share their reactions to the change (22.5%)." Both building personal capacity and listening to students are more common practices in schools than interpersonal or organizational capacity building or the higher

levels of the student voice pyramid, as they require less significant changes in traditional student and teacher roles. The teacher teaches, and the students respond.

The middle level of Mitra's pyramid, "collaborating with adults," is conceptually similar to Mitchell and Sackney's interpersonal dimension, particularly as the items that reflect interpersonal capacity building are mostly about teacher-student interactions. In both, student–teacher relationships are a requirement for mutual learning. The overlap in capacity building constructs, particularly across the interpersonal and organizational dimensions, is similar to the idea that the levels of Mitra's (2006) student voice pyramid build on each other. Thus, students working in partnership with teachers at the middle level of the pyramid will carry that interpersonal element into their work in building organizational capacity for student leadership. The prevalence of interpersonal capacity building and youth–adult partnerships is also similar in that they are both less common than personal capacity building or simply listening to students.

According to Mitra (2006), the top level of the pyramid is the rarest form of student voice: building capacity for student leadership. It is this level on which all of the proposed scale items are based. Creating a school-wide vision for student leadership requires buy-in from the staff. Developing structural strategies like the organizational student leadership capacity building mechanism of inclusive governance structure, is far more difficult and thus, less common than handing out a survey. Building capacity throughout an organization requires large-scale change. A teacher does not need to undergo radical changes to hand out a survey to students or teach them the skills needed to work with others. More substantial change is required for teachers to see students as partners in learning, which is necessary for the second level of Mitra's pyramid or the interpersonal dimension of building capacity. Overall, effective capacity

building for student leadership is not possible without system-wide change. Thus, this is the least common level of Mitra's pyramid, and also one of the areas in most need of attention and development if schools want to build capacity for meaningful student leadership and foster sustainable, organizational growth.

**Revising the conceptual model.** Revisiting the originally proposed conceptual model displayed in Figure 2.2, the three capacity building dimensions and leadership competencies all appeared in both the overall scale and across the separate personal, interpersonal, and organizational scales. The findings of this study validate the conceptual model. Factor analysis demonstrated that the items designed to measure each of these different dimensions, or perspectives, on student leadership can be measured with its own scale. Yet, the separate scales are highly correlated, suggesting the possibility of an additional overall measure for building student leadership capacity. Thus, a scale relating to this broader concept was viewed as an alternative, possibly offering some improved aspects.

One advantage of the overall scale is that the mechanisms for building student leadership capacity are an important feature of the model, many of which are housed in the organizational capacity building dimension. Additionally, the qualitative data emphasized that reflection for growth and change is an important element in the ongoing process of building personal, interpersonal, and organizational capacity building. Mary Parker Follet (1924) spoke to the process of sharing power. She stated it "takes time and education and training to develop...it involves a process and a slow process; it is concerned with neither granting power nor grabbing power but with evolving power... opportunity must be given for this process" (Follet, 1924, p. 188). Figure 5.1 displays a revised model in which the process and reflection involved in building student leadership capacity is featured. The revised conceptual model also includes a

feedback loop-style arrow to indicate how by being crtitically aware, inclusive, and positive student leaders are an integral part of the revision process. When students are able to lead in partnership with adults, voice-fostering mechanisms are adapted to be more effective, and student leadership is amplified.

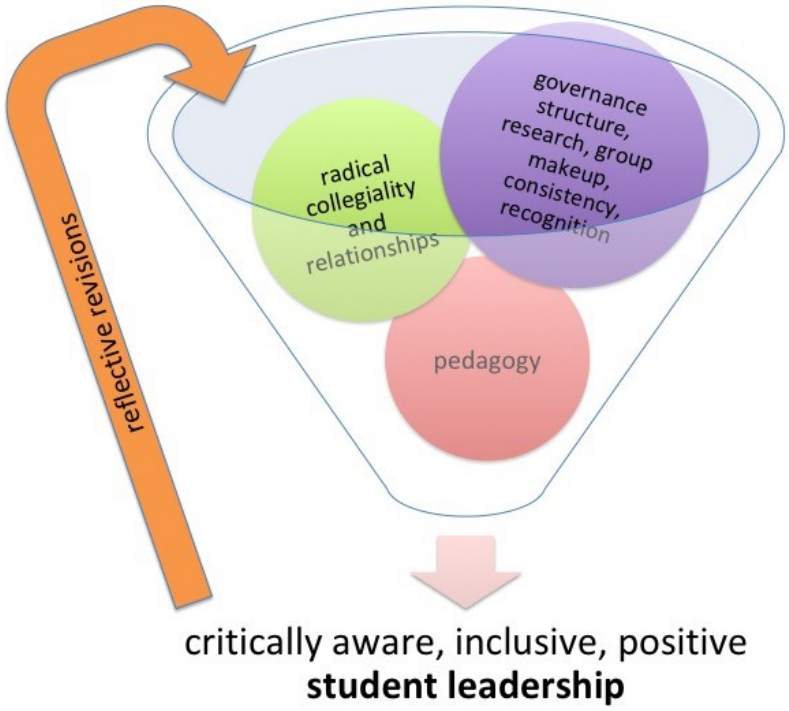


*Figure 5.1.* Building Student Leadership Capacity Conceptual Model. Spheres represent the capacity building dimensions of student leadership: organizational (purple), interpersonal (green), and personal (red).

Nested within the personal, interpersonal, and organizational capacity building dimensions are eight proposed mechanisms for building student leadership capacity. Each of these eight mechanisms was reflected in both the Overall Student Leadership Capacity Building Scale and across the dimension-specific, Personal, Interpersonal and Organizational Student Leadership Capacity Building Scales. In the Overall Student Leadership Capacity Building Scale, radical collegiality, relationship, group makeup, recognition, and pedagogy mechanisms were each represented by one item. Research and consistency were each represented by two

items, and the organizational governance structure mechanism was reflected by four items. The eight mechanisms were also retained across the dimension-specific scales. Radical collegiality, relationship, and pedagogy were each represented by one item; consistency, group makeup, and recognition were each represented by two items; and governance and research each had three items included. Figure 5.1 reflects the way in which mechanism items retained in the final scales fell into the three constructs. The pedagogy mechanism was situated in the personal construct (i.e., Personal Student Leadership Capacity Building Scale and PersonalCriticalAwareness factor in the Overall scale). The interpersonal construct (i.e., Interpersonal Student Leadership Capacity Building Scale and RadialCollegiality factor of the Overall scale) included the mechanisms of radical collegiality and relationships. The organizational construct (i.e., Organizational Student Leadership Capacity Building Scale and Organizational factor of the Overall scale) includes the governance structure, research, group makeup, consistency, and recognition mechanisms.

**Personal student leadership capacity building.** Mitchell and Sackney (2011) explain personal capacity building involves critical reflection both after experiences and during experiences. Phase 2 participants exemplified critical reflection, with students critically pointing out homophobic comments and teachers deeply reflecting on critical feedback from individual students as well as school practices. This critical awareness element of personal student leadership capacity building was evident in the items retained in the scales. The items,“ My teachers encourage me to ask ‘Why?’” and “In my classes, I am asked to identify when only one side of an argument is presented,” were the only personal items retained in both the final Personal scale and the PersonalCriticalAwareness factor of the Overall scale. Both items reflect the leadership competency of critical awareness.

***Pedagogy.*** The pedagogy mechanism is defined in this dissertation as: techniques used to facilitate learning, which may include scaffolding, class discussions, co-constructing curriculum with students or designing the learning space. The pedagogy items were retained in the Personal and Interpersonal Student Leadership Capacity Building scales as well as the Organizational factor of the Overall Student Leadership Capacity Building Scale. However, when considering the construct of pedagogy, categorizing it as part of personal capacity building makes the most conceptual sense. Averaging responses to all initial items within each of the eight mechanisms indicated the pedagogy mechanism had the highest mean score ($M = 4.45$). Descriptive statistics for all student leadership mechanism items are found in Table 4.21. Strong instruction is and has always been an important feature of schooling, so this is unsurprising. One of the features of the pedagogy mechanism that was identified in six of the 20 student voice studies reviewed was having classroom discussions about social justice issues (Brasof, 2014; Denner et al., 2005; Mitra, 2008; Ozer & Wright, 2012; Pautsch, 2010; Wernick et al., 2014). It is not clear which topics are being discussed in these students' classrooms, but it seems clear discussions are fairly commonplace, as the Personal scale item, "During class discussions, I am taught to balance listening and speaking," had more students agree or strongly agree (71.1%) than any other mechanism item.

**Interpersonal student leadership capacity building.** The qualitative data from the focus groups and the survey reflected student-teacher relationships were of great importance to both students and teachers. In an interview, the Transfer2 teacher consistently reiterated relationships were an integral part of the school's success. On the survey, several rural students pointed to a specific teacher with whom they had a positive relationships, like the Rural2 student

who said about a teacher, “In [his] classes, I feel like that we can be very open and honest…[he] makes a personal relationship with every student that walks into his classroom.”

While the majority of the comments made in the focus groups and in the survey referred to teacher–student relationships generally, some were more aligned to the collaborative nature of Mitra’s theory. In a survey comment, one Rural2 student described “a whole school meeting and we all [were] participating in ways to make the school safer.” At Transfer2, approximately 15 students and one teacher collaborate in crews to “lead a town meeting during the year.” One youth–adult partnership idea came up in the ENL1 focus group brainstorm around ideas for improvement, when one teacher excitedly said, “I would love to get six students to help run the intervisitation next year.” While not many practices specific to youth–adult partnership emerged from the qualitative data, the survey results showed most students perceive general sense of collaboration with teachers in their schools. Most notably, as a total sample, there was 63.6% agreement with the interpersonal statement, “At my school, I am able to work with teachers to accomplish common goals.” This item was the only item retained in both the Interpersonal scale and the RadicalCollegiality factor of the Overall scale. The survey also reflects room for growth, as the Interpersonal scale item, “At my school, students and teachers work together to create lessons,” had the lowest mean score of any interpersonal item ($M = 3.83$), with 21.8% of all students expressing disagreement.

***Radical collegiality.*** Fielding (2001) describes radical collegiality as, “An expectation that teacher learning is both enabled and enhanced by dialogic encounters with their students in which the interdependent nature of teaching and learning and the shared responsibility for its success is made explicit” (p. 30). In the literature review of student voice research, this mechanism was one of the most prevalent; it was found in 16 of the 20 studies reviewed. (These

studies are identified in Appendix B.) Student voice researchers explained the absence of this mechanism was linked to unsuccessful student voice initiatives. Silva (2002) and Calvert (2004) highlight adult resistance to working in collaboration with students was a major barrier to student leadership. The ENL1 principal echoed this when she suggests, "rais[ing] awareness in the adult community" in the focus group. Radical collegiality had one of the higher mean scores in the total sample ($M = 4.34$).

***Relationship.*** The relationship mechanism is determined to exist when steps are taken to build relationships between school stakeholders. Relationship also had a high mean score in the full sample ($M = 4.40$). This may reflect the relatively recent trend in education of focusing on social and emotional skill-building. Nearly 60% of student survey respondents agreed with the RadicalCollegiality factor item, "In my school, both teachers and students take time to build relationships with me," retained in the Overall scale. Of the 20 studies reviewed in Chapter 2, the relationship mechanism appeared in 13 student voice studies. (These studies are identified in Appendix B.) Similar to Campbell's (2009) study, teachers and administrators at many of the urban schools in this study are on a first-name basis with students. Campbell (2009) writes, "Students perceived being on a first-name basis as a sign that teachers and staff respected them" (p. 59). The survey results seemed to suggest that abandoning the use of formal teacher titles may be linked to a stronger presence of the relationship mechanism, as the urban schools in this study scored higher than the rural schools on all initial relationship items. Urban schools' mean scores ranged from 4.33 to 5.01, while rural scores were 3.20 and 3.45 for all items intended to reflect the relationship mechanism. Mean scores for all mechanisms by school are listed in Table 4.24.

**Organizational capacity building.** Organizational capacity building is a requirement for building student leadership in schools. Both the Overall Student Leadership Capacity Building Scale and the collective set of Personal, Interpersonal, and Organizational Student Leadership Capacity Building Scales reflect a strong presence of organizational items. In both approaches, the organizational items outnumber the items reflecting other dimensions, indicating the importance of organizational structures and processes in enabling students to lead.

In ENL1's focus group, the principal made this point when she said, "We don't do enough… It requires an intentional effort to put students in those leadership roles." Multiple ENL1 teachers reflected on the need for "more" and "different opportunities for student leadership." The ENL1 principal repeatedly emphasized the need to align our ideas of student leadership through the school-wide outcomes on which students are graded: "What does the leadership outcome mean to us? What does it look like? Is it just being the iPad manager?" Transfer2's organizational direction is clear. During an interview, the Transfer2 teacher spoke of the school's mission and vision statements as well as the seven values of the school, one of which is "commitment to democracy." Their commitment to establishing clear organizational goals may explain why the both ENL1 ($M = 4.71$) and Transfer2 ($M = 4.86$) schools had two of the three highest mean scores on Overall Student Leadership Capacity Building's organizational factor.

***Governance structure.*** The governance structure mechanism is defined as a school's formal system(s) of decision-making with specific attention given to students' roles in such systems. Averaging responses to all initial governance items, this mechanism had the lowest mean score of all of the student leadership mechanisms ($M = 4.03$). Governance structure was one of the two most heavily represented mechanisms in both the dimension-specific and overall

scales. This is comparable to its representation in the qualitative student voice studies, as only six of the 20 reviewed involved governance structure (Brasof, 2014; Calvert, 2004; Campbell, 2009; Møller, 2006; Ozer & Wright, 2012; Pautsch, 2010). All governance structure items reflect decision-making processes within the school. During ENL1's focus group, teachers reported including a student representative in school leadership meeting. However, this is only one student, and it was unclear whether this representative has decision-making power. Transfer2 makes important decisions by consensus, but it was not clear that this involved students. Lately, the phrase, distributed leadership, has become popular in the education world. However, most uses of the term involve principals distributing power to teachers and do not extend power sharing to students. It may be that adapting school governance structures to be inclusive of student voices is one of the final steps on the path to building student leadership, while other mechanisms are easier to adopt quickly. The development of inclusive and sustainable governance structures seems to be an area on which researchers and practitioners should focus their attention, which is consistent with the literature review of student voice research turning up only six studies focused on governance structure (i.e., Brasof, 2014; Calvert, 2004; Campbell, 2009; Møller, 2006; Ozer & Wright, 2012; Pautsch, 2010).

***Research.*** The research mechanism is determined to exist when students gather data to inform decision-making. Research tied with governance structure for the highest number of items in both the overall and dimension-specific scales. Averaging all initial items intended to reflect the research mechanism indicated this mechanism had one of the lowest mean scores from students in the survey ($M = 4.11$). The research items are closely related to the governance structure mechanism. For example, the item retained in both the Organizational factor and Organizational scale, "After a new rule or a new schedule is made, students and teachers are

asked to share their reactions to the change," is about conducting research following an important school decision.

Unlike the governance structure mechanisms, in the student voice literature review, research was popular, appearing in 13 studies. (These studies are identified in Appendix B.) While several student voice studies reported schools trained students on participatory action research methods, typical schools are not actively training or encouraging students to research school issues. No comments referred to action research or data collection projects, but something to this effect must be occurring within several of the study schools, as 52.2% of all respondents agreed with the research item, "I often work with others to gather information about important school issues."

***Recognition.*** In this dissertation, the research mechanism refers to students being acknowledged or compensated for their leadership work in the school. With the second-lowest mean score, ($M$ = 4.04), recognition's prevalence in this study was comparable to the studies in the student voice literature review, as it was only mentioned in six (Brasof, 2014; B. Brown, 2010; Chopra, 2014; Mitra, 2007; Pautsch, 2010; Yonezawa & Jones, 2007) out of the 20 studies reviewed, and in two of these studies, the authors mentioned a need for more recognition of student leadership (Brasof, 2014; Pautsch, 2010).

Though not retained in any scale, it is notable nearly 60% of students agreed with the item, "At school, students and teachers often celebrate accomplishments." This was reinforced throughout ENL1's staff focus group as teachers excitedly planned new ways to publicly recognize members of their school community. Another recognition item, which was not retained in any of the scales, highlights another view of recognition. On the item, "At my school, students are sometimes paid for the work they do to help the school," ($M$ = 3.33) had the

lowest mean score of all the mechanism items with 40% of all students disagreeing or strongly disagreeing with the statement. The means of the other items in the mechanism are much higher, which seems to suggest schools are practicing less-resource intensive ways of recognizing students' accomplishments. This may take place in the form of awards ceremonies or bulletin boards displaying names and pictures of student council officials. The data suggests many students earn school credit for leadership activities. Although, it is possible student responses refer to extra credit, which is vastly different than earning a high school credit(s) on one's transcript. The low mean scores may have a financial cause, but it may also be that school leaders have never considered paying students or awarding course credit for students' leadership efforts.

***Group makeup.*** Important features of the group makeup mechanism include the group size, youth:adult ratio, and stakeholder diversity of school groups and committees. The Organizational item (retained in both the scale and factor), "I know students who are on school committees with other students and teachers," had 60.4% agreement. In the ENL1 focus group, teachers discussed having one student representative on their school leadership team, which also includes seven teachers, one counselor, and the principal. In the existing research, Osberg et al. (2006) suggest the more school committees have an even distribution of stakeholders, the more successful they are. Much of the student voice research includes groups of students with an advisor, rather than diverse groups of stakeholders working in partnership. This seemed to be the case for schools in this study as well. ENL1's efforts have increased stakeholder diversity in their governance structure, but more student representatives would offer a stronger balance of voices. No other schools' group makeup was discussed.

***Consistency.*** For the purpose of this dissertation, consistency entails regularly holding meetings and maintaining stable leadership of school committees and initiatives. The mean score of all respondents on all initial consistency items was 4.21. For the Organizational item, 55.7% of students agreed that "Times and locations of school committee meetings are clearly communicated," Consistency was mentioned in twelve student voice studies (identified in Appendix B). Most of these authors highlighted the striking lack of consistency in student voice initiatives. Osberg et al. (2006) write that in their study, the student representative to the school government team was not invited to all of the meetings. As only about half of the students in this study agreed with the item above, it seems the same issue is also present in the schools in this study.

***Community partnership.*** Another mechanism, community partnership, was identified in the student voice literature. Community partnership is present when schools work closely with an outside youth organization or university that provides training and/or financial resources. However, this mechanism was not included in the initial item pool, as it appeared to enable many of the other mechanisms and thus would be indirectly measured. ENL1's focus group discussion confirmed this assumption was true for at least one school, as some of their community partnerships pay students. The community partnerships in these schools seemed more focused on training students in communication (e.g., restorative practices) or technical skills (e.g., computer repair) than the research-oriented training provided by community partnerships in the schools in the qualitative studies reviewed.

**Leadership competencies.** The leadership competencies of critical awareness, inclusivity, and positivity stem from the adult leadership theories of social justice leadership, authentic leadership, inclusive leadership theory, and positive leadership. The mean leadership

competency scores based on all initial survey items across all three student leadership capacity building dimensions were nearly identical for each of the leadership competencies. Inclusivity had a mean score of 4.38, critical awareness had a mean score of 4.34, and positivity had a mean score of 4.31. The mean leadership competency scores for all initial survey items are found in Table 4.21. As a whole, schools in the sample seem to be building all three competencies evenly.

All three leadership competencies were represented in the final, Overall Student Leadership Capacity Building Scale. Critical awareness was present in six items. Inclusivity was present in nine items, and positivity was present in three items. All three leadership competencies were also present across the set of Personal, Interpersonal, and Organizational Capacity Building Scales. Within the dimension-specific scales, there were five critical awareness items, ten inclusivity items, and nine positivity items. Positivity has a much larger presence in the dimension-specific scales compared to its presence in the Overall Student Leadership Capacity Building Scale.

***Critical awareness.*** Critical awareness is defined here as: reflecting on, understanding, and questioning positive and negative attributes of one's self and society in order to foster equity and growth. Critical awareness is derived from the theories of authentic leadership and social justice leadership. Of Walumbwa et al.'s (2008) four components of authentic leadership, self-awareness was most prominent in this study. On the CriticalAwareness factor item (on the Personal scale), "In my classes, I learn to recognize the effects of my actions on others," 70% of students either agreed or strongly agreed. Gardner et al. (2005) advise self-awareness can be developed through reflection. The ENL1 teachers in Phase 2 of this study exemplified this self-awareness, regarding the school as "self." The Transfer2 teacher also emphasized the

importance of student self-awareness, sharing, “This just came up in a conversation at a staff retreat. Our dream is to have independent learners, but in order to be independent learners, students need to understand their strengths and weaknesses.”

In the student focus group, an ENL1 student noted people may be self-aware, but lack a broader awareness necessary for social justice leadership. She said, “People are usually aware of how they feel, but are not aware of society. That’s true here when people talk about the LGBT community. They don’t think about how others feel.” The Transfer2 teacher also referenced Noble’s (2015) social justice leadership tenant of “care and concern for vulnerable, marginalized, disenfranchised, and disadvantaged populations,” in sharing the school’s “zero tolerance for intolerance” policy. With regards to the social justice element of this competency, the survey results indicated most survey respondents were likely to be asked to think critically, with 71.1% agreement with the Personal (scale and factor) item, “My teachers encourage me to ask “Why?” However, statements that involved acting on that critical thinking, like, “If I think a school policy is unfair, I work with others to try to fix it,” had nearly a quarter of all the students disagree or strongly disagree with the statement.

***Inclusivity.*** This dissertation adapts Booysen’s (2013) definition of inclusive leadership to define inclusivity as: enabling all members to fully participate and learn from each other. Inclusive leadership is heavily influenced by relational leadership theory. Fletcher (2001) talks about Jean Baker Miller’s concept of growth-in-connection, which emerged in the qualitative data from the numerous references to the importance of relationships, particularly between teachers and students. One example comes from an ENL1 student who shared in the focus group that her teacher told the class she learned a lot from the students that she “didn’t know before.”

On the survey, another student expressed the personal growth that comes from working with peers, "You become stronger when you start to like help others."

Pless and Maak (2004) note the benefits of diversity in an organization. The diverse populations of the urban schools in this sample seemed to contribute to high mean scores on all initial inclusivity items like, "At my school, I learn how to work with people of different cultures and backgrounds," for which the mean scores of urban schools ranged from 5.08 to 5.56 and the rural schools' mean scores were 3.97 for Rural1 and 3.40 for Rural2. (School-specific means are displayed in Table 4.23.) Booysen (2013) writes of the value of "leveraging diversity" so members of the organization can be "fully" themselves. One ENL2 student's comments reflect this, stating the school helps students learn to "speak up and identify who you are." One of the highest mean scores for Rural1 ($M = 4.36$) and Rural2 ($M = 4.50$) was on the item, "When doing group work in class, I learn to appreciate the differences each person brings to the group." This suggests even if a school population is demographically homogenous, schools were able to leverage other kinds of diversity to build their inclusive leadership abilities.

Transfer2 embeds inclusivity into its school values, which include "respect for diversity" and "commitment to democracy." This follows Ryan's (2006) suggestion for school policies to foster inclusion. Ryan (2006) also notes the way in which school policies are made should also be an inclusive process. Transfer2 makes school decisions based on consensus, presumably among staff members, but it was unclear whether students also have to consent before decisions are finalized. ENL1 has student representatives that attend the school leadership meetings, although which types of decisions students are involved in was not discussed.

***Positivity.*** Positivity is defined here as: applying a strengths-based lens to facilitate growth and enable flourishing. Cameron (2012) discusses three orientations of positive

leadership, which include a celebration of positive deviance, a focus on strengths, and "facilitating the best of the human condition" (p. 3). The first was discussed at length during the ENL1 teachers' focus group. They discussed how to better celebrate the accomplishments of their students by displaying images of student leaders in the halls. They also talked about establishing a culture of acknowledging positive deviance in which teachers' achievements were also celebrated. On the item, "At school, students and teachers often celebrate accomplishments," there was 58.9% agreement. Transfer2 practices this, as the teacher shared in an interview, "We go out of our way to celebrate accomplishments of students." Transfer2 holds traditional student celebrations like "Attendance and Honor Roll Shoutout," but although it seems likely other achievements are celebrated, no other specific achievement or avenues of praise were mentioned.

Cameron (2012) recommends four positive leadership strategies: positive climate, positive relationships, positive communication, and positive meaning. A positive climate was visible among the ENL1 teachers in their focus group. The discussion was full of laughter and positive energy. Although currently limited to teachers, they also have a "Sunshine Committee," whose purpose is to spread joy. Cameron explains forgiveness and gratitude are features of a positive climate. In the teacher focus groups, ENL1 and Transfer2 teachers shared their schools employ restorative justice practices, which is based on the principle of forgiveness. On the survey, one Transfer2 student exemplified gratitude in a survey comment, saying, "I believe this school is so awesome! I'm glad I came here!"

Dutton and Ragins (2007) note positive relationships are a "source of enrichment, vitality, and learning" (p. 5). These are highly desirous qualities of a school environment. Students and teachers discussed positive youth–adult relationships, using words like

"connection," "care," and "trust," to describe nourishing relationships. Students also discussed receiving emotional support from teachers when "unhappy or upset" and the "comforting" feeling of being able to be "open and honest" with teachers.

The Interpersonal scale item, "At my school, students and teachers give more praise than criticism," received 40% agreement from survey respondents, indicating there is more work to be done in this area. While not part of this study, it would be interesting to measure the ratio of positive to negative statements to see if schools attain the recommended 5:1 ration of positive comments to negative comments (Cameron, 2012). Finally, positive meaning was highlighted in Transfer2's mission, vision, and core values. Other core values of Transfer2 that were not mentioned in the interview include, "cultivate the natural idealism of youth," "becomes morally sensitive people," and "peace and non-violence." This school seems intent on "facilitating the best of the human condition."

**Limitations of the Study**

One major limitation of the study was the sample. It was geographically limited to mainly New York City schools, and only included two rural community schools, both in the same northeastern area of the country. All of the urban schools graduate students by portfolios in place of standardized tests and had highly diverse student populations, both of which seem to strongly impact student responses to scale items. Approximately three-quarters of survey respondents identified as having an ethnicity that was not white, which is helpful from a critical, transformational approach in that it centers the voices of students traditionally marginalized by the U.S. school system. However, it also creates a need to conduct additional research in predominantly white urban schools for a better comparison with the largely white rural student groups in this study.

Phase 2 also had a small sample of interview and focus group participants with only three students total, and all but one participant was from ENL1. Although, narrative responses to open-ended survey questions spread the narrative input to students from all of the schools. Another limitation was my existing connections to several study participants. As schools were recruited through my personal and professional channels, I had prior relationships with the majority of the students and teachers who participated in Phase 2. While I tried to remain objective in analyzing the data, my pre-existing relationships with participants likely impacted how and what participants shared in focus groups as well as how I interpreted the information shared.

As a result of sampling from nine schools, there is a clustering effect on the data, whereby students from the same school were likely to have similar responses to scale items This clustering effect also impacted tests to compare means, as urban schools were racially and linguistically diverse while the rural schools were not, urbanicty was held constant to determine if ethnicity or native language were significantly different. However, there was only one rural student that identified as having a native language other than English and only a handful of rural students that stated their ethnicity was not white. A more diverse rural sample would be helpful when conducting these analyses in the future. Another limitation of the compare means analysis was that at times, demographic groups within schools were small in number, which could have skewed the findings.

This research was exploratory in nature, and the initial intention was to develop three (3) dimension-specific personal, interpersonal, and organizational scales. The context given to students prior to each scale on the survey was created to help students think about the respective personal, interpersonal, and organizational dimensions when responding to items in each section.

To further validate the Overall Student Leadership Capacity Building Scale, the introductions would need to be revised and made into one general introduction at the start of the survey.

One limitation of the Overall Student Leadership Capacity Building Scale was the presence of only two items in the RadicalCollegiality factor. While scale development experts recommend deleting factors with less than three items, factors with two items can be retained if loadings are above .70 and they are uncorrelated with other factors (Worthington & Whittaker, 2006). Loadings for the items were .86 and .85, and MSV for the RadicalCollegiality factor was sufficiently lower than AVE, indicating strong discriminant validity. Therefore, the two-item factor was retained in the model. However, it may provide less detail than desired.

Finally, a limitation of the urban school survey responses involved the timing of data collection. Each year, New York City students take a survey given by the city's Department of Education. Students are told the school's scores are public and their reputations are impacted by the students' responses. It is possible urban school students' responses to this survey were artificially inflated as a result of a desire to help their school get good reviews.

**Implications for Practice**

Educators interested in developing meaningful student leadership in their schools can use either the Overall Student Leadership Capacity Building Scale or the dimension-specific Personal, Interpersonal, and Organizational Student Leadership Capacity Building Scales, either as a set or individually, to gather student perceptions of opportunities in the school to build student leadership. Special consideration should be given to ninth grade students, as in this study these students' responses differed significantly from their peers. Teachers, ideally in collaboration with students, can then reflect on the results and revise or add school practices to further the development of student leadership in their schools. Integrating student leadership

goals into school missions, visions, and values reinforces the importance of student leadership and provides clear direction when reflecting on best practices.

There are eight suggested leadership-fostering mechanisms schools can add to their repertoire or improve, if similar structures and practices already exist. The organizational mechanisms seem to coalesce around one central mechanism: governance structure. The other organizational mechanisms could be categorized as necessary components of a shared leadership governance structure, inclusive and representative of the student body. Group makeup of school committees, including school leadership teams, should be evaluated for group size, 15 members seems to be a reasonable size, (e.g., Calvert, 2004; Mitra, 2007) and stakeholder diversity with as even a balance as possible among students, teachers, administrators, and parents. Consistent and clear communication of meeting times and locations as well as announcements of opportunities to participate in important decision-making is also necessary. Ongoing research should be conducted with youth and adults in the school to inform decisions, monitor the impact of decisions, and revise decisions as needed. This can be accomplished through surveys or town hall meetings. Finally, students should be formally recognized for their contributions to the school, perhaps in the form of payment or academic credit. Minimally, students should be visibly recognized via bulletin boards or awards ceremonies. Moving forward, practitioners should work to build inclusive governance structures as a way to build capacity for student leadership and ultimately improve organizational outcomes.

In the interpersonal domain, school schedules should build in time for teachers and students to build relationships with one another. Professional development should help shift adult mindsets to enable teachers to see students as partners in learning, rather than subordinates

whose jobs are to follow directions. Unfortunately, rigid conceptions of traditional student roles are often barriers for successful student leadership initiatives (e.g., Silva, 2002).

When building students' personal leadership skills, it is important teachers scaffold direct instruction and offer diverse opportunities for student leadership. Skills taught in the classroom should focus on communication and collaboration, with emphasis on the importance of listening to others and embracing differences of opinion. Schools can also offer opportunities for students to co-plan lessons alongside their teachers, enabling students to meaningfully impact how and what they learn. Community partnerships have great potential to assist with personal skill development both in classes and after school.

**Implications for Future Research**

The scales developed in this dissertation contribute to the fields of student leadership and student voice. Previously developed student voice scales focused on youth–adult partnerships (Jones & Perkins, 2005; Zeldin et al., 2014), assessing the relationship mechanism and in one case, decision-making elements akin to governance structure (Zeldin et al., 2014). The Overall Student Leadership Capacity Building Scale and the dimension-specific Personal, Interpersonal, and Organizational Student Leadership Capacity Building Scales assess student leadership capacity building mechanisms in more detail than previous instruments, and they have been validated in high school settings. Student leadership instruments have focused on student self-assessment of leadership practices (e.g., ALQ, SJLS, RLQ, PLAS). Thus, the capacity building focus of the scales developed in this dissertation contribute the possibility to assess the opportunities schools provide to students to develop their leadership capacity.

The scales developed in this dissertation should undergo additional validation testing with larger, more diverse samples. An ideal sample would include students from across the

United States in different types of schools. Students in the sample should be from a variety of different schools to eliminate the clustering effect on the data. Rural schools and urban schools that use traditional graduation requirements like standardized testing should also be better represented in future samples.

The potential impact of a diverse student population on students' responses and school mechanisms themselves should be further explored. The data from this study indicated urban schools scored higher, but the reason why this occurred is unclear. Is it that students in New York City have a choice of which high school to attend? Rural students are required to attend the one high school in their town. One student raised this point, writing, "Why [school name] you may ask? It is for the people whose parents hate them." The impact of school choice on students' perceptions of student leadership opportunities may warrant further study.

Future research could further test and validate a scale(s) using the items intended to reflect the three student leadership competencies in this dissertation. In addition, the items representing the eight student leadership mechanisms could also be further tested and validated as a scale(s).

The role of teacher mindsets towards youth–adult partnerships is another avenue for study. Several students and an administrator commented on the role of teachers' willingness to work collaboratively with students. Assessing the relationship between teacher attitudes and student perceptions of meaningful leadership opportunities would help address one of the most common barriers to building student leadership capacity in schools (e.g., Calvert, 2004; Mitra et al., 2013; Silva, 2002).

Organizational governance structure is another avenue of study for future research. This field is ripe with possibility, as only a few scholars are conducting research in this area (e.g.,

Brasof, 2014; Calvert, deMonmollin, & Winnett, 2015). Studying examples of positive deviance, schools that have stable, inclusive governance structures that embrace and foster meaningful student leadership, would contribute to the limited body of knowledge on governance structures. Such studies could unearth additional mechanisms beyond the nine identified in this paper.

Finally, the quantitative assessment tools—the overall and dimension-specific scales—enable additional quantitative research in the student voice and student leadership fields. Longitudinal data collection, using the scales at two or more points of time could add to the fields' bodies of knowledge regarding the impact(s) of best practices. Moreover, researchers could partner with educators to develop specific interventions to build student leadership capacity, and then measure the change in student perceptions. These scales could also be used in conjunction with existing scales for youth development outcomes as a way to measure the statistical relationships between specific school supports for building student leadership capacity and outcomes like students' agency, belonging, or competence.

**Concluding Remarks**

This study validated two approaches to assessing how schools build student leadership capacity. The three individual dimension-specific, Personal Student Leadership Capacity Building, Interpersonal Student Leadership Capacity Building, and Organizational Student Leadership Capacity Building scales can be used independently or as a comprehensive set to explore levels of and growth in personal, interpersonal and organizational student leadership capacity. Alternatively, the Overall Student Leadership Capacity Building Scale, which is shorter in length and includes items from of all three dimensions can be administered for an overall assessment. Each scale has good model fit, is representative of the leadership competencies of

critical awareness, inclusivity, and positivity. Both the overall scale and the set of dimension-specific scales include items from eight leadership-building mechanisms: governance structure, research, group makeup, consistency, recognition, radical collegiality, relationship, and pedagogy. Schools can also use these scales to assess student perceptions of leadership opportunities available to them and reflect and revise school practices based on scale results. Academics can use one or more of these scales in longitudinal research to assess changes over time in response to interventions and changes in practice.

Building student leadership capacity promotes academic and interpersonal growth in youth (Mitra, 2004). School outcomes also improve when school leaders are representative of diverse school stakeholders, as this results in better organizational decision-making (Kusy & McBain, 2000). Investing in student leadership is also generative. Effective student leadership can help ensure impactful school supports and mechanisms that foster more student leadership.

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# Appendix

## Appendix A

### Inclusion and Exclusion Criteria for Organizational Mechanisms Search

| Inclusion Criteria | Exclusion Criteria |
|---|---|
| • Empirical study<br>• Published in English<br>• Publish in a peer-reviewed journal<br>• Independent variables are school mechanisms<br>• Dependent variables are attributes of student voice that include: decision-making, youth–adult partnerships, inclusivity, or sustainability<br>• High school setting (classes, school-wide mechanisms, clubs offered by school) | • Not empirical<br>• Studies of elementary, middle school, or college settings<br>• Teacher prep programs<br>• CBO-run programs not embedded in HS<br>• YPAR as the dependent variable (rather than a means to foster SV) |

*Note.* Search terms: (Institutional Characteristics OR Organizational Development OR Organizational Culture OR Organizational Communication OR Organizational Climate OR Organizational Change OR structures OR strategies) AND (student voice OR pupil voice OR participative decision making OR decision making in school administration OR student participation in administration OR shared governance OR shared leadership OR distributed leadership OR youth-adult partnership OR student leadership OR youth leadership OR youth par OR YPAR OR youth participatory action research OR participatory action research OR youth action research OR democratic schools) AND (high school OR secondary school) using databases: Education Full Text, Education Research Complete, ERIC, Psychology and Behavioral Sciences Collection, PsycINFO, SocINDEX with Full Text, Sociological Collection; Search terms: ab(student voice) AND ab(high school) using databases: Proquest Dissertations & Theses Global database; citation mining and reverse citation searches used to reach saturation.

## Appendix B

### Summary of Studies in Review of Student Voice Literature

| Author, Year | Primary Q(s) | Sample | Strategies | Student Voice | Methods | Findings |
|---|---|---|---|---|---|---|
| Fielding, 2001 | What is the relevance of a collaborative research and development project between a high school and community college? | 15+ HS students, ages 13-17, mixed level, 3 staff; UK | Radical collegiality, community partnership, research | Y-AP | Case study | Changes over three years were student-led and sustained by dialogic culture. Structural change followed cultural changes in attitudes towards students. Students and three adults trained at the university. "Radical collegiality" was present. |
| Mitra, 2002 | What is the process of developing student voice? Does the development of student voice significantly influence the school? Does student voice influence those involved in the reform work? | 44+ diverse HS students, 3 adults; 50% ENL, 50% low SES; San Fran. | Radical collegiality, community partnership, consistency, pedagogy, relationship, research, size | Y-AP | Embedded case study | Community of practice frame used to identify mutual engagement, shared repertoire, and joint enterprise. Adults legitimized student voice. Students were taken out of class to meet. No consistent meetings. Hierarchy in groups caused hostility. No big culture change, but teachers saw more student voice in school decisions. Balance partnership with critique. School is grant recipient. |
| Silva, 2002 | What are possibilities and limitations of including all student voices? What factors support/restrict student voice in school reform? How do these influence the most marginalized? | 34 diverse public HS students, 5 adults; Berkeley | Radical collegiality, pedagogy, community partnership, research | Inclusivity, decision making | Ethno. case study | Ideas of inclusion present, but ineffective implementation. School only listened to adults. Students needed training on change process. Students reproduced the relations of power. Lacked critique of power. Barriers were structural (large size, bureaucracy, shifting leadership, adult-driven processes) and narrow mindsets (students & adults). |

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| Calvert, 2004 | How does the school maintain and support student involvement in decision-making processes? In what settings are student ownership, youth–adult partnership, and policies and structures created? | HS students, school: 25% low SES, 29% students of color, mid-sized city; Midwest | Consistency, governance, radical collegiality, relationship, community partnership | Y-AP, inclusivity | Case study | Student voice limited to input. Achieved representative number of Black student leaders, but only previously involved students. Government structure created via student-written constitution. Barriers: no common goal, too focused on school image to take risks, no student training, adults resist change, no critique of adults, no space for youth–adult partnership, unclear student roles, no avenue for gathering student opinions. Grant recipient. |
| Mitra, 2005 | How do adults fulfill the balancing role that requires providing support for youth while creating space for young people to take on meaningful roles and responsibilities? | See Mitra, 2002 | Radical collegiality, relationship, size, community partnership | Y-AP | Embedded case study | How a group works together can influence what a group accomplishes. Advisors need to emphasize shared language, norms, & skills (how school system works, address problems via action plans, plan/facilitate meetings, share opinions, get along with others); establish validity of student voice; buffer group from criticism; and create bridges with adults. |
| Denner et al., 2005 | What program practices did adults use in this all-female setting to build supportive partnerships with girls? Were these practices effective in engaging and empowering the girls? | 164 girls, 5 women, 3 HSs, mid-SES, 68% white, 21% Latina, 8% Asian, 5% Black; CA | Pedagogy, relationship, research, community partnership | Y-AP | Case study | CBO adults guided not instructed (gave tools/skills to make group decisions, promoted safe, trusting environment, focused on social justice issues, supported range of leadership styles) and created a place to be authentic (opportunities for all voices to be heard, norm of respectful disagreement, opportunities to talk about personal challenges/interests). |

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| Møller, 2006 | How does a medium-sized Norwegian upper secondary school enact democratic leadership? | 550 HS students aged 16-19, 100 staff, semirural Norway | Governance, pedagogy, relationship | Sustainability, Y-AP | Case study | School is example of sustainable change. Democratic leadership practices: staff dialogues; students have voice in decisions (Student Council involves rest of students, co-create rubrics); staff commitment to social justice (safe learning environment for all students, power shared); and relationships built via social events and access to principal. |
| Osberg et al., 2006 | Who was involved in the reform? How do adults and students view the success of the reform? How do the students feel about their contributions to the team process? | 10 students, 24 adults, varied SES, race, size, CA | Consistency, community partnership, research, radical collegiality | Y-AP | Multiple case study | University partnership, conference with other schools, students invited to teams. Surveyed student bodies. Students need consistent invitations to meetings. One school gave students shared responsibility in reform implementation. Only 2 schools trained students in knowledge of change process. Even distribution of stakeholders helped. |
| Mitra, 2007 | How can administrators help to enhance student voice opportunities in schools? | 13 HSs, 2-5 people from each Y-AP, racially diverse, low SES; San Fran. | Consistency, community partnership, pedagogy, radical collegiality, size, recognition | Y-AP | Multiple case study | Administrators can foster youth–adult partnerships within the context of a school-wide learning community (shared vision, promote student capacity, create new roles); buffer from bureaucracy (e.g., pay students, offer credited course, small class size), and build bridges with intermediary organizations (that provide training for students and adults, ongoing funding, and stable leadership). All schools received grant funding. |

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| Yonezawa & Jones, 2007 | How did student co-research teams evolve over several years to become more student centered and student-principal driven? | 11 principals, 1 team; Latin@, Asian, Black, ENL; San Diego | Consistency, community partnership, research, radical collegiality, size, recognition | Y-AP inclusivity, sustainability | Embedded case study | Students conducted research following training. Principal support: co-create vision, track data over time, representative students (race, language, SES, academics), build teacher research capacity first then students, choose adult listeners to support students, take active role, regular meeting time and space, compensate students (credit, food, praise), generate staff buy-in by having them nominate students, share results with faculty, and recruit 9th & 10th graders). Keep groups small. |
| Mitra, 2008 | What conditions enable and constrain group dynamics of youth–adult partnerships? | see Mitra, 2007 | Radical collegiality, pedagogy, relationship, community partnership | Y-AP | Multiple case study | Strategies to strengthen student voice: build new, clear roles based in shared responsibility and safety to take risks; develop shared language and norms, shared vision to include representative voices; leadership and communication training; adults act as coach, opportunities to discuss social issues via structured discourse. |
| Campbell, 2009 | How does student voice live at the school? What are the beliefs and actions of administrators in promoting voice at the school? How can student voice be enhanced? | 20 students; 6 adults; alternative HS, low SES, low perform, urban, Washington | Governance, pedagogy, relationship | Y-AP | Action research | School has reputation for meaningful student involvement. Student voice promoted when staff: listen to and build relationships with students (via advisories, teachers going by first names, accessible principal), implement student ideas (via group of students advising administration), and ensure changes improve student learning. Shared vision promotes student voice and encourages |

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| | | | | | | teachers to co-construct relevant curriculum with students. |
| Mitra, 2009a | What conditions enable and constrain the sustainability of student voice in school reform? | see Mitra, 2007 | Consistency, size, community partnership, recognition | Y-AP, sustainability | Multiple case study | Six of 13 student voice programs remained after grant ran out. All had lasting intermediary partnerships. Partnerships provided: clear, long-term vision, stable youth and adult leadership, stable funding, knowledge sharing via networks and training. Helpful to pay and publically recognize students and have many adult members (CBOs, teachers, counselors). Big groups were unsustainable. |
| Mitra 2009b | What supports enable the development of strong school-based youth–adult partnerships in challenging contexts? | see Mitra, 2007 | Radical collegiality, relationship, pedagogy, size, consistency, community partnership, recognition | Y-AP | Multiple case study | 3 ways to increase school-based youth–adult partnerships: create opportunities for new roles (train adults, rearrange physical space, small groups) create visible victories (scaffold for quick wins, recognize via paying students) and make time for collaboration (make time to discuss share stories, build relationships, discuss issues, partner with intermediary organizations, 6 groups met as course: keep small, co-create assessments based on participation). |
| Brown, 2010 | What happened during the first two years of this student voice and leadership project? What was the impact on | 14 HS students, 12 adults, HS 1: 42% free lunch, 42% Black, 30% | Radical collegiality, relationship, consistency, community partnership, | Y-AP, sustainability, inclusivity | Embedded case study | Year 1 built community (opportunities for relationship building & creation of new roles amongst core leadership team and community) and trained youth in research, communication and adults in recognizing and supporting student capabilities. Both |

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| | individuals & the organization? | white, 22% Latin@; HS 2: 65% Latin@, 39% ENL; CO | research, recognition | | | were trained in context (policy, funding, decision-making), and tools to promote creative thinking. Year 2 deepened youth–adult partnerships, created more district adult support, and focused on multi-year vision (intermediary partnerships helpful). District created new staff position dedicated to fostering SV. |
| Pautsch, 2010 | How can student government be used to elicit student voice? What are the key moments for school leaders in constructing opportunities for youth participation in school decisions? What challenged or facilitated these key moments? | 17 HS students, 11 adults; 11% Asian, 26% Black, 11% Latin@, 52% white, 50% low SES; mid-west city | Governance, consistency, pedagogy, recognition | Inclusivity, decision making | Case study | Two changes to governance structure: grade-level elections for inclusion and added focus on student engagement, community and budget. Main three challenges: vision (new principal unaware), support (one advisor linked events to goals), and structure (meet regularly with same process - committees). Lack of support in: training, clear roles, recognition, compensation, & guidance. Increase in underrepresented leaders (students of color: 2 to 8; males: 1 to 5). |
| Parnell & Procter, 2011 | What are the underpinning principles of placemaking as a method to develop learner autonomy? What are the opportunities & challenges that exist when introducing flexible learning environments in schools? | 96 youth aged 6-14, 5 teachers; 2 elementary schools; 2 HSs; UK | Community partnership, pedagogy, research, radical collegiality, size | Y-AP | Multiple case study | 5 principles of placemaking process as: active (co-researchers), exploratory (time to reflect, question, see other perspectives, facilitator from intermediary organization), shared (create new roles, shared responsibility), collaborative (mutual learning, dialogue, respectful), and responsive (discover how they learn best). Placemaking autonomy can facilitate self-directed learning. Teacher |

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| | | | | | | resistance and large groups can be barriers. |
| Ozer & Wright, 2012 | How do YPAR interventions implemented in two very different public high schools create or strengthen opportunities for students to influence school policies and practices? | 29 HS students of color, 19 adults; HS1: low SES, ENL; HS2: most girls; mid SES; San Fran. | Consistency, community partnership, governance, pedagogy, research, radical collegiality | Y-AP, inclusivity | Multiple case study | YPAR increased voice opportunities and representativeness (marginalized groups encouraged to sign up for class). Youth trained in communication, team-building, strategic feedback, and research. Teachers and students changed their perceptions of student capacity. Shared vision to promote student learning. New roles and dialogic interactions improved youth–adult relationships. Students in government focused only on social planning. |
| Mitra et al., 2013 | How do new adult advisors conceive of their roles? How do adult beliefs and experiences influence their partnerships with young people? | HS/MS youth & new advisors; HS: urban, 62% free lunch, 65% Latin@, HS 2, MS: town, mid SES, mostly white; mid-Atlantic state | Consistency, community partnership, pedagogy, research, relationship, radical collegiality | Y-AP, inclusivity | Multiple case study | Advisor roles: architect (Y-AP equilibrium), captain (adult-led), and dreamer (youth-led). Helpful practices: scaffolds, community partnerships, meeting during school, student training in research. Teachers need training on how to work in Y-APs and navigate barriers. Radical collegiality (shared vision, clear roles, communication between administrators and groups) improved Y-APs. Adults in Y-APs need: self-efficacy, willingness to share power, and training (vision doesn't hold interest). |
| Brasof, 2014 | How does Madison High School include students and faculty into the policy decision-making, implementation, and | 38 HS students and staff; student leaders: 40% white, 30% | Consistency, governance, pedagogy, research, radical | Y-AP, sustainability | Case study | Organizational learning incidents: state of the school address, court case, leadership team meetings, student-led walkout, and active citizenship unit. Helpful practices: radical collegiality (shared |

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| | review process? How do faculty, students, administration, and staff perceive its impact? | Black, 20% Latin@, 10% Asian, high achieving, school: 73% free lunch; northeast city | collegiality, relationship, size, recognition | | | purpose/responsibility, clear roles), constitutional courses for credit, clear paths for voice (town halls), relationship building (youth–adult dialogue, advisor connects groups), scaffolding (adults suggest), action research, and consistent meetings. Barriers: mandatory testing policy, large class size, and adults' lack of training on change. Student leaders only high achievers. |
| Chopra, 2014 | How does leadership within the school in the context of an intermediary partnership relationship enable the development of adult-student collaborations within the school? (What expands the leadership capacity? How do power relations change as adults and students collaborate around instruction?) | 12 HS students, 15 adults; 78% free lunch, diverse, northwest city | Consistency, community partnership, pedagogy, radical collegiality, relationship, recognition | Y-AP | Case study | Useful practices: youth–adult collaborations outside of class in safe/structured space (Data in a Day, Student Instructional Council, lesson studies/project vetting), partnership with professor (vision, resources, opportunities to share work, scaffolded ownership, fostered staff buy-in), administrator participation (invite students on data walk, explain purpose and set expectation of Y-AP), involve staff in planning, educate teachers of student prep work, consistent meetings as credit-bearing course. Adult allies help interpret student feedback and offer collegial peer pressure. |
| Goodnough, 2014 | Within a community of practice, what processes and practices support mutual engagement in learning? What type of Y-AP will emerge? What are group members' | 10 HS students aged 16-19, 3 adults, large urban school; Canada | Consistency, community partnership, research, pedagogy, radical | Y-AP | Case study | Strategies used: researcher trained teachers in YPAR, then teachers co-trained students, regular lunch meetings with group negotiated agendas, relationship building strategies (time to develop trust, encouraged all to share and listen, shared methods and language), |

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|---|---|---|---|---|---|---|
| | perceptions of the value of cultivating a community of practice? | | collegiality, relationship | | | teachers as facilitators. Shared goal chosen by youth, shared decision-making, reflection, and responsibility (role differentiation) helped radical collegiality. |
| Wernick et al., 2014 | What are the specific processes by which LGBTQQ youth can combine PAR and theater to effect multi-level and youth-centered change among school decision-makers? | 266 HS students/ alumni, 15-22 yrs, mostly white, mix of LGBTQ, 67 adults; Ann Arbor, MI | Community partnership, pedagogy, research, radical collegiality, relationship | Y-AP, inclusivity | Case study | Youth surveyed adults, performed theater, and led after-performance discussions. Adults with various starting points prioritized LGBTQQ issues and took action. Dialogic setting shifted power (adults treated youth as expert consultants), led to ongoing dialogic structures for school reform and youth-led staff training, and improved youth–adult relationships. Public performance raised adult accountability. Scaffold participation, train youth, and mix creative/research-based strategies. |
| Biddle, 2015 | How do youth and adults make sense of organizational support for youth–adult partnership work and translate it into action? What contextual, personal, and philosophical factors enable and constrain the outcomes of YATST action-research projects? | 9 HS students, 15 adults; rural, ~25% free lunch, VT | Community partnership, pedagogy, research, radical collegiality, relationship, size | Y-AP | Embedded case study | Students trained in research focused on shared goals of 4 R's (rigor, relevance, relationships, shared responsibility) and facilitation of student/staff responses to data using CBO values (share responsibility, start from strength, assume positive intentions, seek equity/justice, data-driven change, dialogue). Practices: develop relationships via oral and silent conversation, validate adult experience, invite incremental change (include students in curricula), depersonalize critique. Barriers: student body too large, limited time in school. |

## Appendix C

## Principal Recruitment Letter

Dear Principals,

As a member of [district/network], you are at the forefront of innovative educational practices. As a teacher in this network, I know you are committed to creating an educational environment where students can thrive developmentally and academically. This email is to **request the participation of students at your school in a short survey** that will help paint a picture of how your school supports student leadership, and more broadly, help other schools outside of our network learn how to build student voices in their schools.

In addition to being a teacher, I am a PhD Candidate at Antioch University in the Leadership and Change program. I am conducting dissertation research on student leadership in high schools. Specifically, I intend to validate a set of scales that measure the degree and ways in which schools build capacity for student leadership. Existing studies indicate **student voice in schools leads to improved student relationships, agency, belonging, and competence, ultimately leading to enhanced academic performance**. Additionally, school-wide outcomes improve as well.

Students who choose to participate will have an opportunity to reflect on their own leadership development and anonymously share feedback with the school. **I am requesting your assistance in allowing me to take approximately 5 minutes during a homeroom or study hall period to offer students an opportunity to participate in the research study.** I would briefly describe the survey and share the link with students. I would inform students of their rights as a participant and that the survey is voluntary. I could also answer any questions.

If members of the school community would like to discuss the results of the survey, interested members may sign up here to participate in a post-survey focus group. This is optional. If there is interest, I will facilitate a discussion (approximately one hour) at a time convenient for participants. The purpose of this follow-up discussion would be to deepen understanding of students and educators' perspectives on the topic of student leadership.

Participation in the study is completely voluntary and responses will be kept confidential. No personally identifiable information will be associated with responses in any reports of these data. Both the NYC Department of Education and Antioch University's Institutional Review Boards have approved this survey. If you have any comments or questions, please feel free to email me. I will also provide a letter to send home to parents informing them of the study details and providing my email address if there are any questions.

If you consent to students participating in this study, **please sign and date the attached form** and return it to me at your earliest convenience.

Thank you very much for your time and cooperation.

Sincerely,
Lindsay Lyons

# Appendix D

## Building Student Leadership Capacity Survey

### Introduction

**Do you feel like a leader in your school? How does your school supportstudent leadership development?**

**This survey is for high school students. It asks questions about student leadership at your school. The purpose of this research is to understand student leadership experiences in high schools. You will be asked to think about three things:**

- **learning leadership skills**
- **student involvement in making decisions at school**
- **school structures or processes that build student leadership**

**This is an opportunity for you to share your thoughts on student leadership at your school.**

**Answering these questions is your choice. You do not have to take the survey. You can stop at any time. There are minimal, if any, risks from participating in this survey. The data in this study will be published. However, your answers will be combined with other student responses. Your responses will be anonymous and confidential. Individual responses will not be shared with any person at your school.**

**Antioch University and the New York City Department of Education Institutional Review Boards have approved this survey. Should you have any ethical questions or concerns about this research project, please contact Dr. Lisa Kreeger, Chair of the Institutional Review Board, Antioch University, Graduate School in Leadership and Change at lkreeger@antioch.edu. If you have any questions about this survey, please contact me, Lindsay Lyons, at LLyons@antioch.edu.**

**This survey should take about 15 minutes. By submitting this survey, you confirm that you have read and understand the survey introduction and agree to participate in this research study. Thank you for your participation!**

* 1. I have read and understand the survey introduction, and I voluntarily choose to take this survey.

- ◯ Yes
- ◯ No

**Let's see if you are eligible to take this survey.**

* 2. How long have you attended your school?

- ◯ less than 3 months
- ◯ 3 months - 1 year
- ◯ more than one year

* 3. Do you understand the survey description and directions stated on the first page?

- ◯ Yes! I understand the survey description and directions stated on the first page.
- ◯ No, I do not fully understand the words in the survey description on the first page.

**Section 1 of 3.** This section is about learning leadership skills.

**Here, you will be asked to think about the opportunities you have to develop leadership skills in school. Examples of leadership skills are critically reflecting on your actions, considering different points of view, or identifying your strengths.**

* 4. Thinking about learning leadership skills in school, how strongly do you agree or disagree with the following statements?

| | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| a. In my classes, I am taught to name my feelings. | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |
| b. My teachers encourage me to ask "Why?" | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |
| c. In my classes, I learn to recognize the effects of my actions on others. | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |
| d. In my classes, I am asked to identify when only one side of an argument is presented. | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |
| e. My teachers teach me to challenge usual ways of thinking. | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |
| f. In my school, I am taught to see things from many points of view. | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |
| g. At my school, I am taught to make sure all voices are heard. | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |
| h. When doing group work in class, I learn to appreciate the differences each person brings to the group. | ◯ | ◯ | ◯ | ◯ | ◯ | ◯ |

This section is about learning leadership skills (continued).

**Here, you will be asked to think about the opportunities you have to develop leadership skills in school. Examples of leadership skills are critically reflecting on your actions, considering different points of view, or identifying your strengths.**

* 5. Thinking about learning leadership skills in school, how strongly do you agree or disagree with the following statements?

| | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| i. During class discussions, I am taught to balance listening and speaking. | ○ | ○ | ○ | ○ | ○ | ○ |
| j. At my school, I learn how to work with people of different cultures and backgrounds. | ○ | ○ | ○ | ○ | ○ | ○ |
| k. My teachers explain ideas in many ways so all students can learn. | ○ | ○ | ○ | ○ | ○ | ○ |
| l. At my school, I am taught to see a difficult assignment as a chance to learn. | ○ | ○ | ○ | ○ | ○ | ○ |
| m. At my school, I am asked to identify the strengths of others. | ○ | ○ | ○ | ○ | ○ | ○ |
| n. I am taught how to create an image of my best self in class. | ○ | ○ | ○ | ○ | ○ | ○ |
| o. I feel comfortable trying new things in my school. | ○ | ○ | ○ | ○ | ○ | ○ |
| p. At my school, I am taught to recognize times when I was at my best. | ○ | ○ | ○ | ○ | ○ | ○ |
| q. At my school, I am asked to think about what I can to do improve my skills. | ○ | ○ | ○ | ○ | ○ | ○ |

6. If you have any specific examples or comments about learning leadership skills you would like to share, please type them here.

**Section 2 of 3.** This section is about working with others in the school.

**Here, you will be asked to think about how you work with teachers and students to talk about school issues and help make school decisions.**

* 7. Thinking about working with teachers and students in school, how strongly do you agree or disagree with the following statements?

| | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| a. I often work with others to gather information about important school issues. | ○ | ○ | ○ | ○ | ○ | ○ |
| b. Groups at my school talk about how much progress they have made. | ○ | ○ | ○ | ○ | ○ | ○ |
| c. If I think a school policy is unfair, I work with others to try to fix it. | ○ | ○ | ○ | ○ | ○ | ○ |
| d. In group discussions, I see both students and teachers respectfully listening to critical feedback. | ○ | ○ | ○ | ○ | ○ | ○ |
| e. At school, when there is a conflict, we work through it respectfully. | ○ | ○ | ○ | ○ | ○ | ○ |
| f. In school, I learn from people who think differently than me. | ○ | ○ | ○ | ○ | ○ | ○ |
| g. Groups at my school only make decisions when every group member can live with it. | ○ | ○ | ○ | ○ | ○ | ○ |
| h. Groups at my school respect the voices of all members. | ○ | ○ | ○ | ○ | ○ | ○ |

This section is about working with others in the school (continued).

**Here, you will be asked to think about how you work with teachers and students to talk about school issues and help make school decisions.**

* 8. Thinking about working with teachers and students in school, how strongly do you agree or disagree with the following statements?

| | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| i. In my school, both teachers and students take time to build relationships with me. | ○ | ○ | ○ | ○ | ○ | ○ |
| j. At my school, I am able to work with teachers to accomplish common goals. | ○ | ○ | ○ | ○ | ○ | ○ |
| k. At my school, students and teachers work together to create lessons. | ○ | ○ | ○ | ○ | ○ | ○ |
| l. If a school leader disagrees with my idea, we listen to and learn from each other. | ○ | ○ | ○ | ○ | ○ | ○ |
| m. I usually feel supported by both students and teachers in my school. | ○ | ○ | ○ | ○ | ○ | ○ |
| n. At my school, students and teachers give more praise than criticism. | ○ | ○ | ○ | ○ | ○ | ○ |
| o. At school, students and teachers often celebrate accomplishments. | ○ | ○ | ○ | ○ | ○ | ○ |

9. If you have any specific examples or comments about working with others on school issues you would like to share, please type them here.

**Section 3 of 3.** This section is about your school's culture, structures, and ways of communicating.

**Here, you will be asked to think about the big picture of how your school works. Examples of school structures could include: the ways your school shares information with teachers and students, spaces for students to give their opinions on school issues, or leadership positions for students and teachers.**

**Definitions in this section:**

- ***School committees:*** **any groups that try to improve student learning (like technology committee, restorative justice committee, Mastery-based grading, school board).**
- ***School decisions:*** **any decisions that impact student learning (like which classes are offered, schedules, grading policy).**

* 10. Thinking about the structures and culture of your school around student leadership, how strongly do you disagree or agree with the following statements?

| | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| a. Students are often asked what they think the school is doing well and what the school could do better. | ○ | ○ | ○ | ○ | ○ | ○ |
| b. At my school, both students and teachers can ask questions and give input before school decisions are made. | ○ | ○ | ○ | ○ | ○ | ○ |
| c. After a new rule or a new schedule is made, students and teachers are asked to share their reactions to the change. | ○ | ○ | ○ | ○ | ○ | ○ |
| d. In my school, there is a clear process to share information between students and teachers. | ○ | ○ | ○ | ○ | ○ | ○ |
| e. Times and locations of school committee meetings are clearly communicated. | ○ | ○ | ○ | ○ | ○ | ○ |
| f. Before making a school decision, leaders ask what all the students think about it. | ○ | ○ | ○ | ○ | ○ | ○ |
| g. Students in my school are often asked to be on committees that try to improve student learning. | ○ | ○ | ○ | ○ | ○ | ○ |
| h. Students are invited to participate in school decisions that affect how learning happens. | ○ | ○ | ○ | ○ | ○ | ○ |

This section is about your school's culture, structures, and ways of communicating (continued).

**Here, you will be asked to think about the big picture of how your school works. Examples of school structures could include: the ways your school shares information with teachers and students, spaces for students to give their opinions on school issues, or leadership positions for students and teachers.**

**Definitions in this section:**

- ***School committees*: any groups that try to improve student learning (like technology committee, restorative justice committee, Mastery-based grading, school board).**
- ***School decisions*: any decisions that impact student learning (like which classes are offered, schedules, grading policy).**

* 11. Thinking about the structures and culture of your school around student leadership, how strongly do you disagree or agree with the following statements?

| | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|---|---|---|---|---|---|
| i. At my school, teachers believe they can learn from students. | ○ | ○ | ○ | ○ | ○ | ○ |
| j. Students help create discipline policies for the school. | ○ | ○ | ○ | ○ | ○ | ○ |
| k. I know students who are on school committees with other students and teachers. | ○ | ○ | ○ | ○ | ○ | ○ |
| l. At my school, students often have opportunities to talk about school issues in small groups. | ○ | ○ | ○ | ○ | ○ | ○ |
| m. In my school, students and teachers have regular opportunities to improve their leadership skills. | ○ | ○ | ○ | ○ | ○ | ○ |
| n. Students and teachers at my school attend workshops or trainings together. | ○ | ○ | ○ | ○ | ○ | ○ |
| o. At my school, every student has a mentor with whom they have a positive relationship. | ○ | ○ | ○ | ○ | ○ | ○ |
| p. Student schedules include time for mentoring. | ○ | ○ | ○ | ○ | ○ | ○ |
| q. Student leaders at my school are formally recognized for the work they do to help the school. | ○ | ○ | ○ | ○ | ○ | ○ |
| r. My school often tries new ways of doing things. | ○ | ○ | ○ | ○ | ○ | ○ |
| s. At my school, students are given academic credit for after school leadership activities. | ○ | ○ | ○ | ○ | ○ | ○ |
| t. At my school, students are sometimes paid for the work they do to help the school. | ○ | ○ | ○ | ○ | ○ | ○ |

12. If you have any specific examples or comments about school culture and structures you would like to share, please type them here.

This is the last page!

13. Which grade are you in?

- 9th
- 10th
- 11th
- 12th

14. During the school year, how many hours a week do you work for pay?

- 0 hours. I do not get money for the work I do (like going to school, taking care of my siblings).
- 1-9 hours a week
- 9-18 hours a week
- more than 18 hours a week

15. Is English your native language?

- Yes
- No (please type your native language)

16. Which race/ethnicity best describes you?

- American Indian or Alaskan Native
- Asian or Pacific Islander
- Arabic
- Latina/Latino
- Black or African-American, not Latina/Latino
- White, not Latina/Latino
- Multiracial
- Other (please specify)

17. Do you receive Special Education services?

- ◯ Yes (I have been tested by a school psychologist and have an IEP meeting with teachers every year)
- ◯ No
- ◯ I do not know

18. My academic grades are usually

- ◯ As and Bs (for Mastery grading: 3s and 4s, Above Standards or higher)
- ◯ Cs and Ds (for Mastery grading: 2s, Meets Standards)
- ◯ Fs (for Mastery grading: 1s, Approaching or Below Standards)

19. Have you participated in leadership opportunities in your school or community (e.g. student government, sports team captain, leadership conferences or trainings, led a change project)?

- ◯ Yes, many times
- ◯ Yes, a few times
- ◯ Yes, one time
- ◯ No, never

## Appendix E

### Building Student Leadership Capacity Study:
### School Participation Consent Form

This informed consent form is for students who I am inviting to participate in a research project titled, "Building Student Leadership Capacity."

**Name of Principal Investigator:** Lindsay Lyons
**Name of Organization:** Antioch University, PhD in Leadership and Change Program
**Name of Project:** Building Student Leadership Capacity

**Introduction**
I am Lindsay Lyons, a PhD candidate enrolled in the Leadership and Change program at Antioch University. As part of this degree, I am completing a project to develop and validate a set of scales that measure a school's capacity for building student leadership. I am going to give you information about the study and invite your school to be part of this research. You may talk to anyone you feel comfortable talking with about the research, and take time to reflect on whether you want to participate or not. You may ask questions.

**Purpose of the research**
Your students are invited to participate in a survey that will ask students to respond to statements about how your school supports student leadership development. Following the survey, students and teachers will have the option to discuss the results in a one-hour focus group. The data collected will help researchers and teachers better understand how to schools can offer meaningful opportunities for students to be leaders in their schools.

**Participant Selection**
Your school is invited to be in the study because you are a high school that delivers instruction in English (bilingual schools meet this criteria).

**Voluntary Participation**
Your participation in this study is completely voluntary. You may choose not to participate. You may ignore this invitation. You will not be penalized for your decision not to participate. Participants will not be penalized for not participating or for anything of they contribute during the study.

**Risks**
There are minimal risks to participation. Students and teachers who choose to participate are giving up a small amount of time that could be spent in other ways. There is a possibility other participants in a focus group will share information discussed in the focus group. However, participants are strongly encouraged not to discuss others' comments outside of the focus group to ensure anonymity. Additionally, student and teacher focus groups will be held separately.

**Benefits**

Participants will not receive any monetary incentive to take part in this research project. However, participation will contribute to furthering the understanding of how schools can provide opportunities for meaningful student leadership. It may feel empowering for students or adults to share their ideas, be heard, listen to others ideas, and ultimately inform student leadership initiatives in other schools. Additionally, any students or adults who wish to participate as co-researchers in the data analysis phase of the project will develop qualitative research skills.

**Confidentiality**
I will not share your individual responses with anyone. In any reports, participant names and your school name will be replaced with a pseudonym to maintain anonymity. Focus group comments will be mixed with other participants' comments into general themes. Any direct quotes or specific comments that may identify a participant will be generalized as part of a theme to protect participants' identities.

**Limits of Privacy Confidentiality**
In general, I will keep what participants say or do private, but there are times when I cannot keep things private. I cannot keep things private when I learn:

- a child or vulnerable adult has been abused
- a person plans to hurt him or herself, such as commit suicide,
- a person plans to hurt someone else,

I must tell a government agency if someone is being abused or plans to harm themselves or others. Participants will be informed of this prior to taking part in the focus group.

**Future Publication**
The primary researcher, **Lindsay Lyons,** reserves the right to include any results of this study in future scholarly presentations, future research and/or publications. All information will be de-identified prior to publication (your name and your school's name will **not** be included in any publication.)

**Who to Contact**
If you have any questions regarding the survey, you may ask now or later. To contact the primary researcher, email Lindsay Lyons at: [redacted] If you have any ethical concerns about this survey, contact Lisa Kreeger, PhD, Chair, Institutional Review Board, Antioch University Ph.D. in Leadership and Change, Email: [redacted].

**This proposal has been reviewed and approved by the NYC Department of Education and Antioch University's Institutional Review Boards, which are committee whose task it is to make sure that research participants are protected. If you wish to find out more about this, contact Dr. Lisa Kreeger.**

**DO YOU WISH FOR YOUR SCHOOL TO PARTICIPATE IN THIS STUDY?**

- *I understand my school's participation is voluntary.*
- *Students in my school are invited to participate in a survey and students and teachers are invited to an optional post-survey focus group discussion as part of a study entitled, "Building Student Leadership Capacity."*

I have read the above information, or it has been read to me. I have had the opportunity to ask questions about it, and any questions I have asked have been answered to my satisfaction. I have checked the appropriate consent box below.

_____ **I <u>only</u> consent to students participating in the short <u>survey,</u> but NOT the focus group.**

_____ **I consent to students and teachers' participation in <u>both parts of the study</u> (student survey and student/teacher focus group).**

Principal Name _____

Principal Signature _____

Name of School _____

Date _____
Day/Month/Year

## Appendix F

### Building Student Leadership Capacity Study:
### Survey Participation Information for Guardians

This letter is to inform parents of the study in which I am inviting students to participate. The research project titled, "Building Student Leadership Capacity."

**Name of Principal Investigator:** Lindsay Lyons
**Name of Organization:** Antioch University, PhD in Leadership and Change Program
**Name of Project:** Building Student Leadership Capacity

**Introduction**
I am Lindsay Lyons, a PhD candidate enrolled in the Leadership and Change program at Antioch University. As part of this degree, I am completing a project to develop and validate a set of scales that measure a school's capacity for building student leadership.

**Purpose of the research**
Your child is invited to participate in an anonymous survey that will ask how well your school helps you build leadership skills and practice leadership activities. The information your child provides will help create a reliable set of statements that measure how well schools support students' leadership development. The ultimate goal is to help all schools provide opportunities for meaningful student leadership.

**Participant Selection**
Your child is invited to be in the study because s/he is:

- A high school student who has attended her/his school for 3 months or longer
- Able to understand written or spoken English

Survey participants will be between ages 13-21.
If your child does not meet the description above, s/he should not complete the survey.

**Voluntary Participation**
Your child's participation in this study is completely voluntary (her/his choice). Your child may ignore this invitation or stop the survey at any time.

**Risks**
There are minimal, if any, risks to participation. This survey is anonymous, meaning your child will not give her/his name. So, no one will know how *your child* answered the questions. The results will be combined with results from other students in the school and shared with students, teachers, and researchers. If your child feels uncomfortable at any time, s/he may choose to stop the survey.

**Benefits**
Your child will not receive any direct benefits. However, her/his participation will contribute to furthering the understanding of how schools can provide opportunities for meaningful student leadership. It may feel empowering for your child to share her/his ideas on this topic, be heard, and ultimately inform student leadership initiatives in other schools.

**Future Publication**
The primary researcher, **Lindsay Lyons,** reserves the right to include any results of this study in future scholarly presentations, future research and/or publications. All information will be de-identified prior to publication (your child's name and the school's name will **not** be included in any publication.)

**Who to Contact**
If you have any ethical concerns about this survey, contact Lisa Kreeger, PhD, Chair, Institutional Review Board, Antioch University Ph.D. in Leadership and Change, Email: [redacted]. If you have any questions regarding the survey, you may ask now or later. To contact the primary researcher, email Lindsay Lyons at: [redacted]

**Please keep this page for your records.**

**Thank you for your participation.**

## Appendix G

### Building Student Leadership Capacity Study:
### Student Focus Group Participation Consent Form

This informed consent form is for students who I am inviting to participate in a research project titled, "Building Student Leadership Capacity."

**Name of Principal Investigator:** Lindsay Lyons
**Name of Organization:** Antioch University, PhD in Leadership and Change Program
**Name of Project:** Building Student Leadership Capacity

**Introduction**
I am Lindsay Lyons, a PhD candidate enrolled in the Leadership and Change program at Antioch University. As part of this degree, I am completing a project to develop and validate a set of scales that measure a school's capacity for building student leadership. I am going to give you information about the study and invite you to be part of this research. You may talk to anyone you feel comfortable talking with about the research, and take time to reflect on whether you want to participate or not. You may ask questions at any time.

**Purpose of the research**
You are (or your child is) invited to participate in a focus group that will ask students questions about how your school supports student leadership development. The information you provide will help researchers and teachers better understand how to schools can offer meaningful opportunities for students to be leaders in their schools.

**Participant Selection**
You are invited to be in the study because you are:

- A high school student who has attended this school for 3 months or longer
- Able to understand written or spoken English

Survey participants will be between ages 13-21.
If you do not meet the description above, you should not complete the survey.

**Voluntary Participation**
Your participation in this study is completely voluntary. You may choose not to participate. You may ignore this invitation or stop the survey at any time. You will not be penalized for your decision not to participate or for anything of your contributions during the study. Your grade will not be affected by this decision or your participation.

**Risks**
There are minimal risks to participation. As you are giving up your time to participate in the focus group, you may have less time to participate in after school clubs or do homework. There is a possibility other participants in the same focus group will share information discussed in the focus group. However, students are strongly encouraged not to discuss others' comments outside of the focus group to ensure anonymity.

**Benefits**
You will not be provided any monetary incentive to take part in this research project. However, your participation will contribute to furthering the understanding of how schools can provide opportunities for meaningful student leadership. It may feel empowering for you to share their ideas on this topic, be heard, listen to other students' ideas, and ultimately inform student leadership initiatives in other schools. Additionally, any students who wish to participate as co-researchers in the data analysis phase of the project will develop qualitative research skills.

**Confidentiality**
I will not share your individual responses with anyone. In any reports, your name and your school name will be replaced with a pseudonym to keep your identity secret. Your comments will be mixed with other students' comments into general themes. Any direct quotes or specific comments that may identify you will be generalized as part of a theme to protect your identity.

**Limits of Privacy Confidentiality**
In general, I will keep what you say or do private, but there are times when I cannot keep things private. I cannot keep things private when I learn:

- a child or vulnerable adult has been abused
- a person plans to hurt him or herself, such as commit suicide,
- a person plans to hurt someone else,

There are laws that require me to take action if I think a person is at risk for self-harm or are self-harming, harming another or if a child or adult is being abused. In addition, there are guidelines that researchers must follow to make sure all people are treated with respect and kept safe. In most states, I must tell a government agency if someone is being abused or plans to harm themselves or others. Please ask any questions you may have about this issue before agreeing to be in the study. It is important you do not feel betrayed if I cannot keep something private.

**Future Publication**
The primary researcher, **Lindsay Lyons,** reserves the right to include any results of this study in future scholarly presentations, future research and/or publications. All information will be de-identified prior to publication (your name and your school's name will **not** be included in any publication.)

**Who to Contact**
If you have any questions regarding the survey, you may ask now or later. To contact the primary researcher, email Lindsay Lyons at: [redacted]. If you have any ethical concerns about this survey, contact Lisa Kreeger, PhD, Chair, Institutional Review Board, Antioch University Ph.D. in Leadership and Change, Email: [redacted].

**This proposal has been reviewed and approved by the Antioch International Review Board (IRB), which is a committee whose task it is to make sure that research participants are protected. If you wish to find out more about the IRB, contact Dr. Lisa Kreeger.**

**DO YOU WISH TO BE IN THIS STUDY?**

- *I understand I do not have to take part in this research study.*
- *I have been invited to participate in a students-only focus group as part of a study entitled, "Building Student Leadership Capacity."*

**I have read the above information, or it has been read to me. I have had the opportunity to ask questions about it, and any questions I have asked have been answered to my satisfaction. I voluntarily consent to be a participant in this project.**

Participant Name _____ Guardian Name _____

Participant Signature _____ Guardian Signature _____

Date _____ Date _____
Day/Month/Year Day/Month/Year

**DO YOU WISH TO BE AUDIO RECORDED IN THIS STUDY?**

I voluntarily agree to let the researcher record my **voice only** for this study. I agree to allow the use of my recordings as described in this form.

Participant Name _____ Guardian Name _____

Participant Signature _____ Guardian Signature _____

Date _____ Date _____
Day/Month/Year Day/Month/Year

*To be filled out by the researcher or the person obtaining consent:*

**I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by participants have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.**

**A copy of this Informed Consent Form has been provided to the participant.**

Print Name of Researcher/Person obtaining consent _____

Signature of Researcher/Person obtaining consent _____

Date _____
Day/Month/Year

## Appendix H

### Building Student Leadership Capacity Study:
### Student Focus Group Participation: Guardian Consent Form

This informed consent form is for guardians whose children I am inviting to participate in a research project titled, "Building Student Leadership Capacity."

**Name of Principal Investigator:** Lindsay Lyons
**Name of Organization:** Antioch University, PhD in Leadership and Change Program
**Name of Project:** Building Student Leadership Capacity

**Introduction**
I am Lindsay Lyons, a PhD candidate enrolled in the Leadership and Change program at Antioch University. As part of this degree, I am completing a project to develop and validate a set of scales that measure a school's capacity for building student leadership. I am going to give you information about the study and invite your child to be part of this research. You or your child may talk to anyone you feel comfortable talking with about the research, and take time to reflect on whether you want your child to participate or not. You or your child may ask questions at any time.

**Purpose of the research**
Your child is invited to participate in a focus group that will ask students questions about how your school supports student leadership development. The information your child provides will help researchers and teachers better understand how to schools can offer meaningful opportunities for students to be leaders in their schools.

**Participant Selection**
Your child is invited to be in the study because s/he is:

- A high school student who has attended this school for 3 months or longer
- Able to understand written or spoken English

Survey participants will be between ages 13-21.
If your child does not meet the description above, your child should not complete the survey.

**Voluntary Participation**
Your child's participation in this study is completely voluntary. You or your child may choose not to participate. You or your child may ignore this invitation. Your child may stop participating at any time. You or your child will not be penalized for your decision not to participate or for anything of your child's contributions during the study. Your child's grade will not be affected by this decision or her/his participation.

**Risks**
There are minimal risks to participation. As your child is giving up her/his time to participate in the focus group, s/he may have less time to participate in after school clubs or do homework. There is a possibility other participants in the same focus group will share information discussed in the focus group. However, students are strongly encouraged not to discuss others' comments outside of the focus group to ensure anonymity.

**Benefits**
Your child will not receive any direct benefits. However, her/his participation will contribute to furthering the understanding of how schools can provide opportunities for meaningful student leadership. It may feel empowering for your child to share her/his ideas on this topic, be heard, listen to other students' ideas, and ultimately inform student leadership initiatives in other schools. Additionally, any students who wish to participate as co-researchers in the data analysis phase of the project will develop qualitative research skills.

**Confidentiality**
I will not share your child's individual responses with anyone. In any reports, your child's name and her/his school name will be replaced with a pseudonym to keep your child's identity secret. Your child's comments will be mixed with other students' comments into general themes. Any direct quotes or specific comments that may identify your child will be generalized as part of a theme to protect her/his identity.

**Limits of Privacy Confidentiality**
In general, I will keep what your child says or does private, but there are times when I cannot keep things private. I cannot keep things private when I learn:

- a child or vulnerable adult has been abused
- a person plans to hurt him or herself, such as commit suicide,
- a person plans to hurt someone else,

There are laws that require me to take action if I think a person is at risk for self-harm or are self-harming, harming another or if a child or adult is being abused. In addition, there are guidelines that researchers must follow to make sure all people are treated with respect and kept safe. In most states, I must tell a government agency if someone is being abused or plans to harm themselves or others. Please ask any questions you may have about this issue before agreeing to your child being in the study. It is important your child does not feel betrayed if I cannot keep something private.

**Future Publication**
The primary researcher, **Lindsay Lyons,** reserves the right to include any results of this study in future scholarly presentations, future research and/or publications. All information will be de-identified prior to publication (your child's name and her/his school name will **not** be included in any publication.)

**Who to Contact**
If you have any questions regarding the survey, you may ask now or later. To contact the primary researcher, email Lindsay Lyons at: [redacted] If you have any ethical concerns about this survey, contact Lisa Kreeger, PhD, Chair, Institutional Review Board, Antioch University Ph.D. in Leadership and Change, Email: [redacted].

**This proposal has been reviewed and approved by the Antioch International Review Board (IRB), which is a committee whose task it is to make sure that research participants are protected. If you wish to find out more about the IRB, contact Dr. Lisa Kreeger.**

**DO YOU WISH FOR YOUR CHILD TO BE IN THIS STUDY?**

- *I understand my child does not have to take part in this research study.*
- *My child has been invited to participate in a students-only focus group as part of a study entitled, "Building Student Leadership Capacity."*

**I have read the above information, or it has been read to me. I have had the opportunity to ask questions about it, and any questions I have asked have been answered to my satisfaction. I voluntarily consent for my child to be a participant in this project.**

Guardian Name _____

Guardian Signature _____

Date _____
Day/Month/Year

**DO YOU WISH FOR YOUR CHILD TO BE AUDIO RECORDED IN THIS STUDY?**

I voluntarily agree to let the researcher record my child's **voice only** for this study. I agree to allow the use of the recordings as described in this form.

Guardian Name _____

Guardian Signature _____

Date _____
Day/Month/Year

*To be filled out by the researcher or the person obtaining consent:*

**I confirm that the guardian and child were given an opportunity to ask questions about the study, and all the questions asked by guardians and participants have been answered correctly and to the best of my ability. I confirm that neither the guardian or child has been coerced into giving consent, and the consent has been given freely and voluntarily.**

**A copy of this Informed Assent/Consent Form has been provided to the participant.**

Print Name of Researcher/Person obtaining consent _____

Signature of Researcher/Person obtaining consent _____

Date _____
Day/Month/Year

# Appendix I

## Building Student Leadership Capacity Study:
## Teacher Focus Group Participation Consent Form

This informed consent form is for students who I am inviting to participate in a research project titled, "Building Student Leadership Capacity."

**Name of Principal Investigator:** Lindsay Lyons
**Name of Organization:** Antioch University, PhD in Leadership and Change Program
**Name of Project:** Building Student Leadership Capacity

**Introduction**
I am Lindsay Lyons, a PhD candidate enrolled in the Leadership and Change program at Antioch University. As part of this degree, I am completing a project to develop and validate a set of scales that measure a school's capacity for building student leadership. I am going to give you information about the study and invite you to be part of this research. You may talk to anyone you feel comfortable talking with about the research, and take time to reflect on whether you want to participate or not. You may ask questions at any time.

**Purpose of the research**
You are invited to participate in a focus group that will ask teachers questions about how your school supports student leadership development. The information you provide will help researchers and teachers better understand how to schools can offer meaningful opportunities for students to be leaders in their schools.

**Participant Selection**
You are invited to be in the study because you are:

- A teacher (i.e. classroom teacher, paraprofessional, administrator) who has taught at the school for at least 3 months
- Teaching students who completed the Building Capacity for Student Leadership survey

If you do not meet the description above, you should not complete the survey.

**Voluntary Participation**
Your participation in this study is completely voluntary. You may choose not to participate. You may ignore this invitation or stop the survey at any time. You will not be penalized for your decision not to participate or for anything of your contributions during the study. Your job will not be affected by this decision or your participation.

**Risks**
There are minimal risks to participation. As you are giving up your time to participate in the focus group, the amount of time you usually use to prepare for teaching or grading may decrease. There is a possibility other participants in the group will share information discussed in the focus group. However, participants are strongly encouraged not to discuss others' comments outside of the focus group to ensure anonymity. You may experience discomfort if the scale scores are lower than desired or if participants may critique particular teaching practices.

**Benefits**
You will not be provided any monetary incentive to take part in this research project. However, your participation will contribute to furthering the understanding of how schools can provide opportunities for meaningful student leadership. Any teachers who wish to participate as co-researchers in the data analysis phase of the project will develop qualitative research skills.

**Confidentiality**
I will not share your individual responses with anyone. In any reports, your name and your school name will be replaced with a pseudonym to keep your identity secret. Your comments will be mixed with other teachers' comments into general themes. Any direct quotes or specific comments that may identify you will be generalized as part of a theme to protect your identity.

**Limits of Privacy Confidentiality**
In general, I will keep what you say or do private, but there are times when I cannot keep things private. I cannot keep things private when I learn:

- a child or vulnerable adult has been abused
- a person plans to hurt him or herself, such as commit suicide,
- a person plans to hurt someone else,

There are laws that require me to take action if I think a person is at risk for self-harm or are self-harming, harming another or if a child or adult is being abused. In addition, there are guidelines that researchers must follow to make sure all people are treated with respect and kept safe. In most states, I must tell a government agency if someone is being abused or plans to harm themselves or others. Please ask any questions you may have about this issue before agreeing to be in the study. It is important you do not feel betrayed if I cannot keep something private.

**Future Publication**
The primary researcher, **Lindsay Lyons,** reserves the right to include any results of this study in future scholarly presentations, future research and/or publications. All information will be de-identified prior to publication (your name and your school's name will **not** be included in any publication.)

**Who to Contact**
If you have any questions regarding the survey, you may ask now or later. To contact the primary researcher, email Lindsay Lyons at: [redacted] If you have any ethical concerns about this survey, contact Lisa Kreeger, PhD, Chair, Institutional Review Board, Antioch University Ph.D. in Leadership and Change, Email: [redacted]

**This proposal has been reviewed and approved by the Antioch International Review Board (IRB), which is a committee whose task it is to make sure that research participants are protected. If you wish to find out more about the IRB, contact Dr. Lisa Kreeger.**

**DO YOU WISH TO BE IN THIS STUDY?**

- *I understand I do not have to take part in this research study.*
- *I have been invited to participate in a teacher-only focus group as part of a study entitled, "Building Student Leadership Capacity."*

**I have read the above information, or it has been read to me. I have had the opportunity to ask questions about it, and any questions I have asked have been answered to my satisfaction. I voluntarily consent to be a participant in this project.**

Print Name of Participant_____

Signature of Participant _____

Date _____
Day/month/year

**DO YOU WISH TO BE AUDIO RECORDED IN THIS STUDY?**

I voluntarily agree to let the researcher record my **voice only** for this study. I agree to allow the use of my recordings as described in this form.

Print Name of Participant_____

Signature of Participant _____

Date _____

Day/month/year

*To be filled out by the researcher or the person obtaining consent:*

**I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by participants have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.**

A copy of this Informed Consent Form has been provided to the participant.

Print Name of Researcher/Person obtaining consent _____

Signature of Researcher/Person obtaining consent _____

Date _____
Day/Month/Year

# Appendix J

## Institutional Review Board Approvals

Department of Education
*Carmen Fariña, Chancellor*

Research and Policy Support Group

**52 Chambers Street**
**Room 310**
**New York, NY 10007**

March 8, 2018

Ms. Lindsay Lyons
[redacted]

Dear Ms. Lyons:

I am happy to inform you that the New York City Department of Education Institutional Review Board (NYCDOE IRB) has approved your research proposal, "Building Student Leadership Capacity." The NYCDOE IRB has assigned your study the file number of 1868. Please make certain that all correspondence regarding this project references this number. The IRB has determined that the study poses minimal risk to participants. The approval is for a period of one year:

**Approval Date:** **March 8, 2018**
**Expiration Date:** **March 7, 2019**

**Responsibilities of Principal Investigators:** Please find below a list of responsibilities of Principal Investigators who have DOE IRB approval to conduct research in New York City public schools.

- Approval by this office does not guarantee access to any particular school, individual or data. You are responsible for making appropriate contacts and getting the required permissions and consents before initiating the study.
- When requesting permission to conduct research, submit a letter to the school principal summarizing your research design and methodology along with this IRB Approval letter. Each principal agreeing to participate must sign the enclosed Approval to Conduct Research in Schools/Districts form. *A completed and signed form for every school included in your research must be emailed to* [redacted]. Principals may also ask you to show them the receipt issued by the NYC Department of Education at the time of your fingerprinting.
- You are responsible for ensuring that all researchers on your team conducting research in NYC public schools are fingerprinted by the NYC Department of Education. Please note: This rule applies to all research in schools conducted with students and/or staff. See the attached fingerprinting materials. For additional information click here. Fingerprinting staff will ask you for your identification and social security number and for your DOE IRB approval letter. You must be fingerprinted during the school year in which the letter is issued. Researchers who join the study team after the inception of the research must also be fingerprinted. Please provide a list of their names and social security numbers to the NYC Department of Education Research and Policy Support Group for tracking their eligibility and security clearance. The cost of fingerprinting is $135. *A copy of the fingerprinting receipt must be emailed to* [redacted]

- You are responsible for ensuring that the research is conducted in accordance with your research proposal as approved by the DOE IRB and for the actions of all co-investigators and research staff involved with the research.
- You are responsible for informing all participants (e.g., administrators, teachers, parents, and students) that their participation is strictly voluntary and that there are no consequences for non-participation or withdrawal at any time during the study.
- Researchers must: use the consent forms approved by the DOE IRB; provide all research subjects with copies of their signed forms; maintain signed forms in a secure place for a period of at least three years after study completion; and destroy the forms in accordance with the data disposal plan approved by the IRB.

**Mandatory Reporting to the IRB:** The principal investigator must report to the Research and Policy Support Group, within five business days, any serious problem, adverse effect, or outcome that occurs with frequency or degree of severity greater than that anticipated. In addition, the principal investigator must report any event or series of events that prompt the temporary or permanent suspension of a research project involving human subjects or any deviations from the approved protocol.

**Amendments/Modifications:** All amendments/modification of protocols involving human subjects must have prior IRB approval, except those involving the prevention of immediate harm to a subject, which must be reported within 24 hours to the NYC Department of Education IRB.

**Continuation of your research:** It is your responsibility to insure that an application for continuing review approval is submitted six weeks before the expiration date noted above. If you do not receive approval before the expiration date, all study activities must stop until you receive a new approval letter.

**Research findings:** We require a copy of the report of findings from the research. Interim reports may also be requested for multi-year studies. Your report should not include identification of the superintendency, district, any school, student, or staff member. Please send an electronic copy of the final report to [redacted].

If you have any questions, please contact Dr. Mary Mattis at [redacted]

Good luck with your research.

Sincerely,

[redacted]
Signature removed for privacy.

Mary C. Mattis, PhD
Director, Institutional Review Board

cc: Barbara Dworkowitz

ANTIOCH UNIVERSITY

Lindsay Lyons <[redacted]>

**Online IRB Application Approved:Building Student Leadership Capacity March 9, 2018, 8:56 am**

[redacted]

[redacted] Fri, Mar 9, 2018 at 8:56 AM

To: [redacted]

Dear Lindsay Lyons ,
As Chair of the Institutional Review Board (IRB) for 'Antioch University Ph.D., I am letting you know that the committee has reviewed your Ethics Application. Based on the information presented in your Ethics Application, your study has been approved.
Your data collection is approved from 03/09/2018 to 03/08/2019. If your data collection should extend beyond this time period, you are required to submit a Request for Extension Application to the IRB. Any changes in the protocol(s) for this study must be formally requested by submitting a request for amendment from the IRB committee. Any adverse event, should one occur during this study, must be reported immediately to the IRB committee. Please review the IRB forms available for these exceptional circumstances.
Sincerely,
Lisa Kreeger

# Appendix K

## Copyright Permission for Figure 1.1

ANTIOCH UNIVERSITY

Lindsay Lyons [redacted]

**Requesting permission to use figure in dissertation**

**PermissionsUK** <[redacted]
To: Lindsay Lyons

Wed, Jul 11, 2018 at 1:52 PM

Dear Lindsay Lyons,

Thank you for your email. I am pleased to report we can grant your request without a fee as part of your dissertation.

**Please accept this email as permission for your request as detailed below. Permission is granted for the life of the edition on a non-exclusive basis, in the English language, throughout the world in all formats provided full citation is made to the original SAGE publication.**

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If you have any questions, or if we may be of further assistance, please let us know.

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Craig Myles

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# Appendix L

## Copyright Permission for Figure 2.1

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Lindsay Lyons [redacted]

**Formally requesting permission to use figure in dissertation**

**Sue Redmond** <[redacted]> Thu, Jul 12, 2018 at 12:52 PM
To: Lindsay Lyons <[redacted]>

Hi Lindsay,

Absolutely no problem at all, when you are all published please do send me the links to your studies/articles I'd love to read them.

Wishing you the very best
Sue
[Quoted text hidden]

<Permission to Use Figure_Redmond.png>

# Appendix M

## Letters of Authorization for Research in Rural Schools

[redacted]
School header removed to preserve anonymity.

**Letter of Authorization/Cooperation**

April 30, 2018

Antioch University, Institutional Review Board
Graduate School of Leadership and Change
900 Dayton Street
Yellow Springs, OH 45387

Please note that Lindsay Lyons, an Antioch University PhD student, has the permission of [redacted]chool District to conduct research for her study titled, "Building Student Leadership Capacity." Please find attached our signed principal/superintendent consent form.

If Antioch University's Institutional Review Board has any concerns about the permission being granted by this letter, please contact us at [redacted].

Name [redacted]

Signature [redacted] Date 5/24/18

Signature removed for privacy.

School header removed to preserve anonymity.

April 30, 2018

Antioch University, Institutional Review Board
Graduate School of Leadership and Change
900 Dayton Street
Yellow Springs, OH 45387

Please note that Lindsay Lyons, an Antioch University PhD student, has the permission of the principal of [redacted] High School to conduct research for her study titled, "Building Student Leadership Capacity." Please find attached our signed principal consent form.

If Antioch University's Institutional Review Board has any concerns about the permission being granted by this letter, please contact me at [redacted]

Thank you.

Signature removed for privacy.

Principal